This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

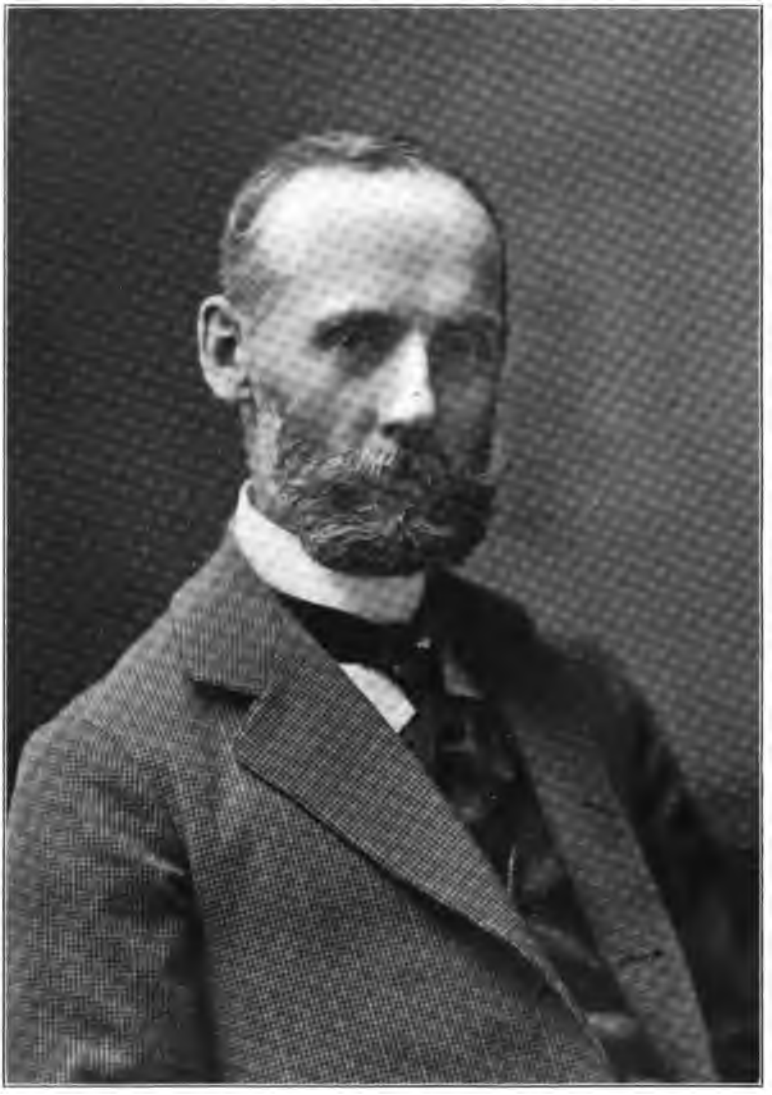
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`



HERBERT D. SCHENCK, M. D., O. et A. Chir.,
President of the American Ophthalmological, Otological and Laryngological Society, 1904.

TRANSACTIONS

OF THE

AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND LARYNGOLOGICAL SOCIETY

SEVENTEENTH ANNUAL MEETING.

NIAGARA FALLS, NEW YORK.

JUNE, 1904.

5238

BOSTON MEDICAL
APR 9 1906
LIBRARY

Officers 1903-4.

PRESIDENT:

HERBERT D. SCHENCK, M. D. .....Brooklyn, N. Y.

FIRST VICE-PRESIDENT:

EDWARD B. HOOKER, M. D. .....Hartford, Conn.

SECOND VICE-PRESIDENT:

DAVID A. STRICKLER, M. D. .....Denver, Colo.

SECRETARY:

J. IVIMEY DOWLING, M. D. .....Albany, N. Y.

TREASURER:

GEORGE W. McDOWELL, M. D. .....New York, N. Y.

CENSORS:

GEORGE A. SUFFA, M. D.....Boston, Mass.
JOSEPH H. BALL, M. D. .....Bay City, Mich.
JOHN M. FAWCETT, M. D. .....Wheeling, West Va.
GEORGE H. RHOADS, M. D. .....Springfield, Mass.

CATALOGUED
APR 9 1906
E. H. B.

Officers 1904-5.

PRESIDENT:

ROYAL S. COPELAND, M. D..... .....ANN ARBOR, MICH.

FIRST VICE-PRESIDENT:

HERBERT W. HOYT, M. D.....ROCHESTER, N. Y.

SECOND VICE-PRESIDENT:

JOHN L. MOFFAT, M. D.....BROOKLYN, N. Y.

SECRETARY:

DAVID W. WELLS, M. D.....BOSTON, MASS.

TREASURER:

G. DEWAYNE HALLETT, M. D.....NEW YORK, N. Y.

CENSORS:

JAMES A. CAMPBELL, M. D.....ST. LOUIS, MO.
C. J. SWAN, M. D.....CHICAGO, ILL.
A. WORRALL PALMER, M. D.....NEW YORK, N. Y.
GEORGE A. SHEPARD, M. D.....NEW YORK, N. Y.
FRANCIS B. KELLOGG, M. D.....LOS ANGELES, CAL.

BOSTON MEDICAL
APR 9 1906
LIBRARY.

PROCEEDINGS

OF THE

SEVENTEENTH ANNUAL MEETING

OF THE

American Homœopathic, Ophthalmological, Otological and Laryngological Society.

Held at Niagara Falls,

June 20–23. 1904.

FIRST DAY—MORNING SESSION.

The Seventeenth Annual Convention was called to order by the President, Dr. Herbert D. Schenck, at 10 o'clock A. M., who stated:

The President: The time has come when we declare open the Seventeenth Annual Convention of the American Homœopathic Ophthalmological, Otological and Laryngological Society, and I desire first to make a correction in the minutes that may seem peculiar to some of those who attended the sessions in Boston last year, where it appears that the president-elect made no remarks concerning the unanimous election which you gave him for the office; I tried to express myself as sincerely as I knew how for the honor you conveyed me, but some way or other the stenographer left it out, and I desire now to renew my personal thanks for my election.

Before we begin, I desire to call your attention to the fact that the meeting will be called to order as promptly as we can get eleven members present at the hour named in our program, and that the papers will have the time limit of twenty minutes, leaving discussion ten minutes and others five minutes. That time limit will be rigidly adhered to.

The President then appointed the following committees:

Attendance.—Dr. Harry S. Willard, Paterson, N. J.; Dr. Charles H. Hubbard, Chester, Penn.; Dr. E. D. Brooks, Ann Arbor, Mich.

Press.—Dr. Joseph H. Ball, Bay City, Mich.; Dr. C. Gurnee Fellows, Chicago, Ill.; Dr. David W. Wells, Boston, Mass.

Auditing.—Dr. E. W. Beebe, Milwaukee, Wis.: Dr. Roy S. Copeland, Ann Arbor, Mich.; Dr. Harry S. Weaver, Philadelphia. Penn.

The first order of business is the first paper on the program, entitled "Some Cases of Astigmia and Their Relief," by Dr. E. D. Brooks.

Roy S. Copeland, M. D.: Mr. President, permit me before calling that paper to ask you when will we have the business session.

The President: Tomorrow night at 8 o'clock.

Roy. S. Copeland, M. D.: There are one or two matters of business which should be brought before the Society earlier than that, and these matters that I refer to ought to be raised before then.

The President: Very well, bring them up.

Roy. S. Copeland, M. D.: Mr. President and Members of the Society: I do not know why this matter was not brought before the Society last year. From my standpoint it is important. I refer to the possibility of affiliation with the American Institute of Homœopathy, and it seems to me that the matter at least ought to be brought before the Society and some consideration be given it. I know that we have been criticized because we have not discussed it or considered it, and in order that it may be brought formally before the higher Society, I move as follows:

Resolved, That it is the sense of this Society that we affiliate with the American Institute of Homœopathy in harmony with the plan of reorganization adopted by that body in 1902.

Resolved, That the President appoint a committe of three, of which he shall be the chairman, to prepare the necessary details.

Resolved, That the committee report back for final steps to be consummated at this session of the Society.

The President: Dr. Copeland, if you will defer action there will be some reference made to that in the President's address tomorrow night, and we will then take that matter very fully into consideration.

Roy. S. Copeland, M. D.: I am not advised what advice the President will give in his paper. No doubt it will be good advice. Nevertheless, I feel that this is a matter of much importance, and that there are certain details which must be worked out; if the President could give us an inkling as to what his advice is to be, I will be perfectly satisfied; but otherwise, so far as I am concerned, I should like expression from the Society now.

The President: I have taken the ground in my address that under the present conditions it is impossible to affiliate until the American Institute amends its By-Laws to make us a full section of the Society, so that we will not have a repetition of the view of the American Institute we had in

1884, and the resultant breaking up this organization. If you desire to leave it until after the address tomorow night and have the committee appointed at that time, it is for you to say. The question is now before you. I have not heard any second to the motion.

Joseph H. Ball, M. D.: I fully agree with Dr. Copeland. I shall be glad to second his motion.

The President: Is there any discussion upon it?

Roy S. Copeland, M. D.: Now, Mr. President, I do not want to show the slightest discourtesy to the presiding officer; not the slightest. There is not a man in the profession for whom I have greater respect or greater consideration, and yet I must express my own conviction with reference to that particular matter, even though it be not in accord with the judgment of the President. Those of us who are out on the firing line of Homœopathy, away from the centres, realize now, whether we ever did before, the necessity of organization and of the necessity of strength of an isolated body. So far as I am concerned, Mr. President, above and beyond the fact that I am an ophthalmologist, I am a homœopath, and I feel if we are standing in the way in the least of the American Institute of Homœopathy by keeping up our distinctive and separate organization, or are keeping out of the American Institute certain members, we ought to affiliate with it. I cannot, for my part, see the slightest objection to it, and see no reason why we should not have all the privileges we now have, and do the individual work we now do, have as much time as we now have, and be in every sense as we now are by this action. I am perfectly satisfied with any action that this body may make. I am firmly of the faith that we ought to affiliate, as the Gynæcological and Surgical Society has done.

Charles H. Hubbard, M. D.: Mr. President, whether this Society should affiliate or not with the American Institute of Homœopathy may be a question, but there is no question but that there is a feeling deep and strong that this matter should be considered and considered fully, if not finally, and we can do no better than to give it earnest and thoughtful consideration.

E, D. Brooks, M. D.: I would like to ask Dr. Copeland whether in his motion it will be referred to the Society for action with definite plan and outline?

A. B. Norton, M. D.: It seems to me if we adopt that resolution now it commits us to affiliation without discussion. Do I so understand it?

The President: That is what I understand.

A. B. Norton, M. D.: Mr. President, I must object to such an im-

portant resolution as this, committing the Society to affiliation, being crowded through at this time, the very first business of our opening session, when but very few of our members are present.

The first paragraph of Dr. Copeland's resolutions pledges the Society to affiliation, and if adopted, there remains nothing for the committee to do except make the best terms possible.

One effect of such an affiliation now would be to drop nearly one-third of our present membership, as there are today fifty-one of our members who are not members of the American Institute, and from an examination of this list I do not believe over half a dozen of this fifty-one would become members. I prefer to have the subject announced for consideration, when more of our members may be present.

George W. McDowell, M. D.: If Dr. Copeland will omit the first part of the resolution it will simplify matters very much. That will leave the committee to consider the whole matter without any commitment at the present time; as Dr. Norton says, if we vote now it will either kill or adopt the whole matter without consideration. I think we should have full consideration, that the committee should be appointed and report as soon as possible so that we may have full consideration and details and examine the matter very thoroughly.

Roy S. Copeland, M. D.: I have no desire to be unreasonable, and if my second will agree, I am willing to add two words to my resolution so that it will read: *'Resolved,* It is the sense of this Society, *if feasible"* but leaving the other matters as they are. That leaves time for the committee to bring back a report, when it can be considered by the Society after full consideration, and allow every man to have his own realized views when he does vote. I am clear in my conviction, but if anybody is in doubt I am perfectly willing he should be given time.

A. B. Norton, M. D.: I offer an amendment to strike out the first paragraph and to make the committeee to consist of the President and the ex-presidents of the Society, to consider as to the advisability of and plan for affiliation with the Institute, and to report to the Society tomorrow evening. The ex-presidents of this Society are men who have been more interested in the welfare of this Society perhaps than other individual men because of the work they have had to do in keeping the Society going as it is, and the number makes the committee larger and more representative.

George W. McDowell, M. D.: I second the amendment.

Roy. S Copeland, M. D.: I have no objection to Dr. Norton's first part of the motion, to strike out the first part of the resolution, but I am

opposed to the second part of it. So far as I am concerned, I have been long enough in this Society listening to opinions of the ex-presidents. I do not care how great, and grand, and glorious they are as individuals; I respect every one of them, and I admire every one of them, yet, after all, there are some who are not ex-presidents who want to be represented on that committee, and we want our views expressed, and while I am on my feet I want to say that I am opposed absolutely to our scheme of nominating all officers by the ex-presidents. The ex-presidents can plan from now until kingdom-come who shall be officers of the Society. That is a trust I am down on, and I want to say now in terms unmistakable, I am opposed to that sort of scheming.

A. B. Norton, M. D.: Point of order.

Roy. S. Copeland, M. D.: I am discussing the question, Mr. Chairman. I think you will agree with me.

The President: I must limit this discussion. Are there any further remarks?

E. L. Mann, M. D.: I think Dr. Norton will withdraw the second part, then everything will be clear sailing. I do not see why the Society should always be represented by its ex-presidents. It seems to me that there are lay members who are deeply interested in this matter. For my part I think that the life of the American Institute of Homœopathy is of more value to us as a school than what we do in our sectional meetings. We men who are out in the western districts, and who are few in numbers, and who are now being soaped over in order to be swallowed by the old school society, feel that something must be done to give us a right to our distinctive title, and that the American Institute must do this; And anything we can do to encourage the American Institute, anything we can do to strengthen it, I think we ought to do. I think we passed a resolution some years ago to the effect that no man should be a member of this Society who is not a member of the Institute. I think we ought to fall in line. The life of the Institute is of more importance to us as homœopaths, who are out away from the old centres of homœopathic faith. We want that support and that influence. I hope Dr. Norton will withdraw.

A. B. Norton, M. D.: I am perfectly willing to withdraw that. My principal object was to have it considered by a larger committee than three. I withdraw the matter referring to the ex-presidents, but would like the committee to consist of five or seven. I think it important to have a large committee consider it, and I move that the committee shall consist of seven members.

The President: Now we come to Dr. Norton's amendment. All those in favor——

Roy S. Copeland, M. D.: What is that Mr. President? Let us understand it.

A. B. Norton, M. D.: That the first part of your resolution be stricken out and the committee be made to consist of seven, of which the President is a member—a committee of seven instead of a committee of three.

The motion unanimously prevailed. The committee to be announced later.

Roy S. Copeland, M. D.: I move the standing resolution which was adopted in 1899, be amended as follows:

"*Resolved,* That the Committee on the Nomination of the Officers shall consist of all ex-presidents of the Society present at any meeting, provided that in no case less than three be present; the President shall appoint from the members present a number sufficient to make the committee consist of three members." (Adopted June 16, 1900.)

I move to amend that, Mr. Chairman, in this way: *Resolved,*. The Committee on Nomination of Officers shall consist of all ex-presidents, etc., just as now, and add to it, "this committee shall receive from the members of this Society nominations for the various offices, which nominations shall be endorsed in writing by five members of the Society in good standing. All nominations shall be made on the first day of the annual meeting. In case of failure of the committee to receive nominations for any office, it shall supply the deficiency, and that the election take place in the usual way." The only difference is that instead of leaving it entirely in the hands of the ex-presidents, any five members of the Society may make a nomination, and I move to so amend that standing resolution.

The motion was seconded.

George W. McDowell, M. D.: May I ask Dr. Copeland if he means by that that the Committee on Nominations shall only report such nominations as are received but shall also make such nominations as they see fit?

Roy S. Copeland, M. D.: They report all nominations.

The President: Are you ready to take action on this. All in favor please say Aye; contrary, Nay. So ordered. Standing resolution No. 1 has been amended.

On motion, duly seconded, the program was adopted.

O., O. AND L. SOCIETY. BUSINESS SESSION.

Tuesday Evening, June 21, 1904.

President: The meeting will please come to order. I want to announce that, unless there is some other business, the time has arrived to read the President's address. Will the Vice-President, Dr. Strickler, please take the chair.

Vice-President (Dr. Strickler): Gentlemen, you have heard the very excellent address of the President, what will you do with it?

D. A. MacLachlan, M. D.: I move that a committee of three be appointed by the Vice-President to report on the President's address. Carried.

Vice-President: I will appoint Drs. Shearer, Garrison and Hubbard on that committee.

President: The next order of business is the report of the Treasurer.

REPORT OF TREASURER O., O AND L. SOCIETY.

June 20, 1904

RECEIPTS.

1904.		
Balance last report, June 19, 1903,		$173.57
Received from members,		353.00
		$526.57

EXPENDITURES.

1903.		
June 24.	J. B. S. King, stenographer,	$75.00
July 2.	J. I. Dowling, Secretary's expenses,	84.45
Oct. 10.	Expressage on Transactions,	10.36
Dec. 14.	Printing for Treasurer,	4.25
Dec. 30.	Postage for Treasurer,	4.00
1904.		
May 6.	T. B. & H. B. Cochran, printing Transactions,	174.83
June 17.	Postage for Treasurer,	2.00
June 20.	Balance on hand,	171.68
		$526.57

GEORGE W. McDOWELL,
Treasurer.

Moved, seconded and carried that the Treasurer's report be referred, for auditing, to the Executive Committee-elect.

President: We now come to the report of the Secretary.

THE REPORT OF THE SECRETARY.

"The success of this year's convention of our Society is largely due to the efforts of President Schenck, who has secured a large number of interesting papers upon a variety of topics. The individual members responded to the request of the Secretary for discussions, and I thank them for their assistance, which has enabled the officers to arrange the program for the various meetings.

"J. IVIMEY DOWLING,
"Secretary."

R. S. Copeland, M. D.: I move that the report be received and take the usual course. Carried.

President: There is still a committee to be heard from, I believe.

R. S. Copeland, M. D.: Mr. President and Members: Owing to the inability of the minority on that committee to make the majority agree with them, the said minority is unable to subscribe to the report to be handed in and will be compelled to make another report. Dr. W. R. King, of Washington, will make the majority report.

MAJORITY REPORT.

Resolved, That it is the sense of this Committee that it is inexpedient at this time for the American Homœopathic Ophthalmological, Otological and Laryngological Society to enter into more complete affiliation with the American Institute of Homœopathy than at present exists; at the same time this Committee recommends that this Society place itself on record as being in favor of a closer affiliation at such time as the Institute may formulate a practical scheme for its reorganization into a distinctly sectional Society.

WM. R. KING, M. D.,
HERBERT D. SCHENCK, M. D.,
HOWARD P. BELLOWS, M. D.,
E. J. BISSELL, M. D.,
G. W. MCDOWELL, M. D.

President: What is your pleasure in regard to this report?

J. L. Moffat, M. D.: I move that it be received, and that we now hear the minority report.

R. S. Copeland, M. D.: I make this minority report on the behalf of Dr. Mann and myself. The arguments so far as I have been able to observe them, that are offered against merging with the American Institute, are that fifty-one of our members are not members of the Institute, and if we were to make membership of the Institute an absolute condition of membership of this, that would be legislating them out of existence. It is further urged that if this plan is carried out that we would lose control of our transactions, because they would be printed in the same volume as the Institute proceedings; also, we would have no voice in the executive committee, and be unable to choose the place of our own meetings; and, as pointed out, it might be desirable from time to time to meet at another location in order, for instance, to secure some clinical material in those sessions that have now become a feature of our meetings. This, I believe, is a fair statement of the objections urged against any move in the direction of joining with the American Institute of Homœopathy. No, there is also this point, that we would have no voice in the arrangement of the program, and might not have as much time allotted to us as we desire. I believe that if these objections were wiped out in some manner that even the majority of the committee would desire closer affiliation with the Institute than we have at present. That is, I think, conceded on all sides. Now the minority side has, as it thinks, successfully met all these objections in the plan which is herewith submitted:

MINORITY REPORT.

It is the sense of this Society that we affiliate with the American Institute of Homœopathy.

The career of our distinctive organization has been such, however, that we hesitate to take any step which may involve us in complications working possible injury to our successful Society. For this reason we desire certain preliminary arrangements which seem to us necessary for harmonious and mutually useful affiliation. Among these are:

1. To preserve our transactions intact and to have a voice in location of meeting and arrangement of program, the president of the O., O. and L. shall be ex-officio, a member of the Executive Committee of the American Institute of Homœopathy.

2. On February 1, 1905, the Treasurer of O., O. and L. Society shall

furnish the Treasurer of the A. I. H. a list of our members in good standing, *i. e.*, with all dues paid to the time of this meeting. Automatically all such shall become members of the A. I. H. and be liable for the dues of the current year.

Should this plan prove feasible and acceptable to the A. I. H., we authorize the officers of our Society to take immeditate steps looking towards its consummation.

R. S. COPELAND,
E. G. MANN.

Now, then, you may ask me what authority I have for saying that the Institute would take those fifty-one members into its list without the usual initiation fee. I have none except the word of the officers and individual prominent members with whom I have talked; everyone with whom I talked said that those usual initiation fees would be certainly waived. As to the transactions, I am sure that they do not offer the slightest difficulty; if any member of this Society desires for any reason to have its proceedings apart, they will be furnished him at a nominal price in a separate volume. Now, if we adopt this report of the minority it will then be up to the American Institute to say what they will do about it. The burden is then transferred from our shoulders to theirs.

J. H. Ball, M. D.: I would like to offer a substitute to the motion that is before the house. I move that the minority report be received and adopted.

President: Any remarks.

C. H. Vilas, M. D.: I am much interested in listening to the report of both sides of the committee. I have looked around to see if I am the only one here present of those who made up the initial gathering when this Society was formed. I believe that I am the only one except Dr. Beebe. Since that time we have been through one affiliation with the American Institute, and although it proved more or less of a failure, I am now very much in favor of affiliation again on general principles, and I am still more so since hearing these reports tonight from both sides of the question. I think Dr. Copeland's idea as stated in the minority report an excellent one, that embodies all the elements of safety that we can reasonably ask for. I have confidence in the American Institute; it has always intended to do all that it said that it would do. If we can go with them in the manner that Dr. Copeland outlines, I think that we ought to do so. It seems to me that this ought to be apparent to every one.

If you look over the trend of affairs during the last few years, it is perfectly plain that we can not make our national society too strong; we need strength every day. My visit to this meeting after an absence of three or four years has been of the greatest pleasure to me. Never before has there been a more general interest, or more able papers, and it is very important that we should do nothing that would retard or injure in the least our progress, but if the American Institute will receive us, subject to the conditions outlined by Dr. Copeland, I should be very anxious to effect a union, for the reason that such a union would but increase our strength and the strength of the cause.

J. L. Moffat, M. D.: I am not sure that I like the idea of going to the American Institute with a plan for them to consider. The question may be asked, why should we dictate terms to them? I am not sure that we know just what is meant by having control of our transactions; what do we mean by that? How about the publication of our *official journal?* My journal has been the only other homœopathic journal devoted to the specialty of the eye, ear and throat, and it has ceased to exist. I do not say that *The Homœopathic Eye, Ear and Throat Journal* is going out of existence; I have not asked anything about it, and am speaking for myself only. I feel very anxious, personally, that we should not do anything to imperil that journal. If this move towards amalgamation will not endanger that journal I am in favor of it, but I am in favor of the journal first and amalgamation second. We should study this question more thoroughly and go slow.

D. A. MacLachlan, M. D.: I want to express my views as favoring the report of the minority members of that committee. For some time I have been firmly of the opinion that the Institute had made a movement in the right direction. I have been more and more convinced of that as time went along. In our Society there has been a strong sentiment in favor of adding our strength to that of the Institute, and about an equal number who favored the permanence of the present arrangement. Both sentiments have been voiced here tonight, and there has been an excellent spirit shown; I would like to see the spirit that prevails here tonight prevail to the end. It is necessary that the Institute should go still further than it has yet gone; there is no reason why it should not borrow a page from the policy of the old school in order to secure our place; the place that belongs to us by right. During the last two or three years the American Medical Association has reorganized upon a basis that makes it a very strong and effective item in medical politics. The smaller societies are instruments by which it works out its ends

continually. Our own Institute will have to adopt some such plan if its members desire to have any voice at all in the arena of national medicine. We can strengthen the hands of the Institutee by adding our strength to it. I should dislike to see this Society retard that progressive movement in any way. There is no need of haste, we should understand thoroughly just what we are doing, but let us do it.

W. R. King, M. D.: As one of the advocates of the majority report and also one of the committee who had to do with the consideration of the subject, I have a few words to say. There is no one in this room who can justly lay claim to greater allegiance and loyalty to the American Institute than I. I was one of the reorganizers of this Society when it came out of the Institute, again as a separate Society, and I have two queens, I have two loves. My first love is the Institute, and my second is the O., O. and L. Society. This Society organized and started on its career and fathered by that king of all specialists, Dr. George S. Norton, became a great and shining success. Then some members in the Institute felt aggrieved and appealed to us to stop running as a special society, as it was claimed that it hurt and injured the parent institution. It was said at that time that there would be no difficuly, that we could have all the privileges and rights that were necessary. The result was that it did stop. Loyal to the great Institute we stopped right there. We became a section, or rather a bureau, of the Institute, and tried to work along with them, but we were nearly smothered. Work went on in a way but it was not satisfactory. Our troubles came to a climax at the meeting at Newport. I appealed to specialists for papers in vain for that meeting; they said "why should we write papers, there will be nobody to listen to them; no audience." It was perfectly plain at that time that technical papers would be listened to only by specialists, they would be, and were neglected by the general practitioner.

It is well known to all of you that a technical paper by a specialist, while very interesting to us, goes over the heads of an audience composed of general practitioners. It is quite different with surgical and gynæcological subjects; these interest the general audience, and such societies do not have the same excuse as we do for a separate existence. We are working along entirely different lines as specialists from that of the surgical and gynæcological men, and do not touch general medicine at nearly so many points. To save ourselves from extinction we had to reorganize. The Society has grown wonderfully in strength and interest from that moment. Our printed transactions are

a witness to the great amount of scientific work that has been accomplished, and of its splendid quality. As one of the reorganizers of the Society I am earnest that not the least thing should be done to injure or cripple our work in the future. True, I am anxious to aid the American Institute in every way that I can. If our present position is detrimental or objectionable to them, I will vote in a minute either to go out of existence or to merge with them, whichever may be considered the most proper. But the fact is that this Soicety has been always conducted along lines calculated to help the Institute and not to hurt it.

The minority report sounds fair, and is fair, if accepted by the Institute in the same spirit in which it is presented. Is it wise, is it judicious for this younger society to go to the mother association with these conditions until we have been asked to do so specifically.

C. H. Vilas, M. D.: I thought that that had been done when I spoke before.

W. R. King, M. D.: No, sir; there has been nothing special, nothing but the general sentiment. The general sentiment against all separate societies applies as well to all others as to us. At least I know of no other proposition than the general resolution that was offered and was not intended especially for us. I for one do not like to apply, to knock at the door, until I am perfectly sure that they are willing to accept us. I am far from sure, and, in the nature of things, nobody can be sure that the proviso included in Dr. Copeland's report will strike the Institute favorably. When they are ready they will ask us directly, I should think. We have had, up to date, no official notification except the general one spoken of above.

Besides all this, I am afraid that it will not work any better than it did before; officers are liable to be changed every year, they are very busy, as a rule, and in the general business of the Institute will, or may, forget some item that is very important to the success of the meetings of this Society. The arrangement of the program, the publication of the transactions, the time of meeting or some such detail will not be satisfactory, and there we are again in the same difficulty from which we once freed ourselves.

H. P. Bellows, M. D.: I have repeatedly expressed the same idea that Dr. MacLachlan has expressed in his remarks. It is rather mortifying to one's pride to flatter one with whom we are not on terms of friendship. If a nation devises some new form of battleship, some improved smokeless powder or appliance for the purpose of increasing their power in battle, what do the other nations do? Do they not vie

with it? Do they not try to follow out the same lines and improve them if possible, getting all the ideas that they possibly can from their rival's? The American Medical Association has been reorganized, and now with the smaller medical societies all over the country to act as feeders and instruments has acquired, and is still acquiring, an immense amount of political power. I think that we have got to bottle our pride to a certain extent and imitate the example of the enemy by organizing some such movement in the American Institute. If we join with the parent institution, it will be an element of strength for them. If, on the other hand, after making these propositions they refuse to accept, it will act as a mild but respectful protest on our part at their position, and also as a gentle stimulant to consider some plan of reorganization. To merge immediately it seems to me would weaken our power, it might be retrograde step, it might be an advance; that would depend upon how it was received. Let us look toward merging, but go slow; let us wait a little longer.

Chas. H. Vilas, M. D.: Mr. President, I should like very much to hear both of these reports read again.

The majority aand minority reports were then read again.

C. Gurney Fellows, M. D.: I would like to vote for both sides of this question if I could. The first part of that minority report is all right, it agrees with the other report perfectly. But this is an important question that this committee of five or six men cannot decide in twenty-four hours. It is impossible to get wise action in such a short time upon a thing of such vital interest. I, therefore, move that this same committee be continued for a year and report at the next meeting.

Chas. H. Vilas, M. D.: We should keep carefully in mind that when this Society made a former affiliation to please the American Institute, after the change was effected, it simply remained neutral, kept silent while the plan proposed by the Institute was being tried. This Society is in a very different condition today; it is numerically much larger and active enough to have something to say in a matter that so vitally concerns its welfare. We do not, on the other hand, wish to rebuff the Institute; there is no intent of that kind in either report. But these provisos should be acceded to before we consent to a merger.

When I spoke in favor of the minority report, I thought that the Institute had made some particular request for action, but now that I have learned the status of the matter, I do not think that we should adopt the whole of that report. A year is short enough time for so important a move, and we ought to take it, Whether this same committee will be

able to settle it I do not know. I should be sorry if they came back in a year with their teeth clenched as firmly as they are now, for I am sure that that would leave us just about where we are.

A. B. Norton, M. D.: I had not intended to speak on this subject to-night, because I feel that some have thought that my position, which is well known, was due to personal interests. The reference of Dr. Moffat to the official organ leads me to rise in explanation. It is well known that the *Homœopathic Eye, Ear and Throat Journal,* as far as its present owners are concerned, is ready to cease its publication. It has been continued during the past year simply to carry out an implied contract with this Society to print its transactions. As to the journal, I can merely say that its editors are ready to place it in the hands of any good man; I want to see it continued because, as Dr. Moffat says his journal has ceased to exist, I think our specialty is large enough and sufficiently interesting to have a journal of its own. I would be glad if someone would take the burden from our shoulders, which we have borne for ten years. I want also to explain in support of Dr. King's report my relations to the American Institute and this Soicety. No one who has not had the honors that I have had from the American Institute *can* feel as tenderly and lovingly as I do towards it; it is the greatest body of medical men in our school, and it has seen fit to grant to me the highest honor within its power. I claim a loyalty and an affection for that body that is not to be excelled. At the same time I feel the greatest interest in my own specialty, and one or two things have been said that I take exception to.

Dr. Vilas mistakes, I think, in regard to the work of the old society; it did equal work or perhaps better work, considering the disadvantages we labored under; the smallness of the membership and the status of the specialty at that time. It has been pointed out that during the time that we were in the Institute our work stagnated and the Society almost lay dormant. Since the separation we have advanced ourselves and we have helped to advance the whole school. Moreover, in the eyes of the public, in the eyes of the profession and in the eyes of the members of the Institute, we are part and parcel of that body; our influence, our work, and our predilections are all in favor of the larger body. Our By-Laws, even, are so constructed as to lead all of our members to Institute membership. It gets everything from us that we can give it. I do not believe that there is any dissatisfaction among the members of the Institute because we have a separate existence; it is rather a feeling in our own body, among a few of our members.

Every man here knows and every one of its own members knows that the American Institute in undergoing changes. Changes have been made in times past with a view of improvement, and have been changed again when not found satisfactory. It is still undergoing changes; its method of work is not yet finally settled by any means, and I predict that at this meeting there will be found several things that are so unsatisfactory that there will be brought forth more changes in the near future. The Bureau of Homœopathy, the most important bureau in our whole Society, is given quite the last day of the meeting for their deliberations. They will not be contented with that. Changes will probably follow. I am in favor of going with the American Institute as a section of it as soon as it has settled with some degree of surety upon a satisfactory working basis, and no sooner. It seems to me that the motion of Dr. Fellows is a most desirable one. We are not ready to ask the Institute to do things that it is not, or may not, be willing to do. Let this committe work on for another year.

D. A. Strickler, M. D.: I was quite in favor of the minority report, and I am so still, but I believe, considering the conditions that confront us, here, and the difference of opinion that exists, that we cannot do better than wait a year to allow matters to get into a more favorable state before acting upon it.

D. A. MacLachlan, M. D.: I think that I see things a little clearer than when I discussed the subject before, and if Dr. Fellows will adopt this suggestion and make that committee a committee of conference will soon dispose of the matter.

C. G. Fellows, M. D.: I do not see that it makes any difference, it would be our committee all the same, but I accept that suggestion.

R. S. Copeland, M. D.: I am perfectly willing to be comfortable as a neighbor, and even if sat upon, I will endeavor to look sweet. Remember that I have dabbled in profane politics and have been defeated without serious results to my health. This is not a new matter. It has been under consideration by or in the American Institute since 1902; this is the third year that it has been on the slate. It was discussed by the President and other prominent members, and the time to take action seems to me to have arried. I know what I say about their willingness to accept us is true; I have not approached anyone on this subject, but I have been approached by at least thirty of the the prominent members of the Institute.

Now, suppose that this plan should not prove a success, this Society would not be injured: it would not lose its identity, we would still have

our own officers, members and Constitution to go on with. I do not see the danger spoken of by some. We have proposed a sensible plan that I believe would work out all right, and even if it does take a year to effect it that is all the more reason for beginning at once and give them a chance to work with something definite to work on.

E. J. Bissel, M. D.: No one can tell what the final working out of this will be; the plan formulated by Dr. Copeland is only in the rough; we certainly want to know what would be the result of this plan in regard to the transactions, especially that, before we take final action ourselves. All the points mentioned, the transactions, the voice in the management, the election of our own officers and so on will take at least another year to work out; with all these unsettled it would be a mistake, I think, to make any proposals now.

E. L. Mann, M. D.: I think Dr. Fellows's plan is good, it does no injustice to either side of the question. We have put ourselves on record as being willing to affiliate, and even to go half way to meet the older association. I do believe that the matter is somewhat in the rough. It is true that we have had the subject before us for a long time, but it has only been before us, we have never discussed it much, and in the course of a year we can get a more definite notion in regard to many details. I favor Dr. Fellows's motion.

R. S. Copeland, M. D.: If the motion before the members was to be withdrawn we could consider it and report back before final action is taken.

President: That is exactly what the present motion would accomplish if passed. Dr. Fellows's motion is that the minority report be referred back to the same committee to report one year from now.

A. B. Norton, M. D.: Just one word more. Dr. Copeland says he has been approached by thirty prominent members of the Institute. I have been known as being opposed to affiliation and do not recall more than two members of the Institute outside of our own body who have approached me on this subject. I do not think that there is any general demand in the Institute for this affiliation; they simply have no interest in the matter. Under the action taken by the Institute at this session, requiring membership in local and Sate societies before they can become members of the Institute, very few, if any, of our fifty-one non-Institute members could be eligible as members of the Institute. Furthermore, I do not believe that any officer or officers can pledge the Institute to suspend its rules to admit these members without the initiation fees.

C. G. Fellows, M. D.: I move the previous question. Seconded. Carried.

President: This minority report then is to be referred to a committee consisting of seven members to report one year hence. Carried.

J. L. Moffat, M. D.: I move that the committee be called a conference committee. Carried.

President: The next order of business is the report of the Board of Censors.

The Board of Censors submitted the following eight applications for active membership:

Dr. Clinton C. Straughn, Matawan, N. J.

Dr. C. Sheble Brown, Philadelphia, Penn.

Dr. Llewellyn J. Sanders, Rochester, N. Y.

Dr. Raymond C. Conklin, Batavia, N. Y.

Dr. W. H. Doane, Pittsford, N. Y.

Dr. William Franklin Beggs, Newark, N. J.

Dr. J. Edgar Ambler, New York, N. Y.

Dr. Herbert A. Harrison, Cooperstown, N. Y.

C. G. Fellows, M. D.: I move that the report of the Board of Censors be received, and that the names recommended as members be elected by the Secretary casting a vote for the Society. Carried.

The Secretary presented the resignations of Dr. J. H. Harvey, of Toledo, Ohio, and Dr. Joseph D. Lewis, of St. Paul, Minn., which were accepted by the Society.

President: Is there any new business to come up at this time. I must remind the gentlemen that it is growing late, and that the supper is growing cold. The landlord has sent up to remind us of it.

E. J. Bissel, M. D.: I have for some time past been thinking of some plan for stimulating and encouraging original research among the members of this Society. The best plan seemed to be that adopted by the British Ophthalmological, Otological and Laryngological Society. At certain intervals of two, three or four years the Society selects some member who has achieved results of benefit to his fellows, to give a memorial address, and this is considered as the highest honor within the gift of the Society. My thought was that a committee be appointed by the President to take the matter under consideration, and report some plan to us next year. The idea being that the Society is from time to time to select some individual to give an address involving the subject of original research; the function to be known as the George S. Norton

Address, in order to do honor to a man whose memory we all revere. I ask that such a committee of three members be appointed. Carried.

President: The chair will appoint the members of this committee later.

T. L. Shearer, M. D.: The Committee appointed on the President's Address is ready to report.

REPORT ON PRESIDENT'S ADDRESS.—It is always a pleasure to hear an address which is so full of excellent, practical suggestions as that of Dr. Schenck's. No society can progress and keep up its standard of work without the constant addition of men, younger members, therefore we should endeavor to bring new men into our fold by representing to them the great advantages of belonging to such an organization as our Socity. It is a matter of surprise that some of those who are already on our membership list take so little trouble to attend the yearly metings; we should, therefore, bring pressure to bear upon them. The President's appeal to the younger men to present papers, report cures or failures, should be listened to; or even if they describe a troublesome case, which has resisted ordinary methods of treatment, or present a case for diagnosis, they as well as the Society will gain by it. The feature so successful in Boston of operative clinics should be continued each year, and we should have this idea in mind when selecting our meeting places. Last, but not least, we must commend the President's remarks about the part of the program which refers to Materia Medica, and let us, gathering enthusiasm from this year's sessions, return to our homes determined to do better work with our remedies, and report them next year.

THOMAS L. SHEARER, M. D.
J. B. GARRISON, M. D.,
CHAS. H. HUBBARD, M. D.,

W. R. King, M. D.: I move that this report be adopted. Carried.

President: The next order of business is to elect officers for the next year.

The Nominating Committee submitted a list of names for the action of the Society, and the Secretary was ordered to cast the ballot in favor of the candidates named. The following are the names of those elected to office for the ensuing year:

President.—Dr. Roy. S. Copeland, Ann Arbor, Mich.
First Vice-President.—Dr. Herbert W. Hoyt, Rochester, N. Y.
Second Vice-President.—Dr. John L. Moffat, Brooklyn, N. Y.
Secretary.—Dr. David W. Wells, Boston, Mass.

Treasurer.—Dr. G. DeWayne Hallett, New York, N. Y.

Censors.—Dr. James A. Campbell, St. Louis, Mo.; Dr. C. J. Swan, Chicago, Ill.; Dr. A. Worrall Palmer, New York, N. Y.; Dr. Geo. A. Shepard, New York, Dr. Francis B. Kellogg, Los Angeles, Cal.

T. M. Stewart, M. D.: I move that the report be received and adopted, and that the Secretary be instructed to cast the ballot for the Society. Carried. Cries of "Speech! Speech!"

R. S. Copeland, M. D.: I will merely say that I am not unconscious of the honor showered upon me, and I thank the ex-presidents for thus casting coals of fire upon my head.

H. P. Bellows, M. D.:

Mr. President:

On behalf of the Committee of our Society on Reproving I have still another annual report, each year feeling that the completed work will make future reports needless. In plain words, the one great reason why the material in my hands had not already appeared in book form is because there is so much of it. This reason is the more apparent because it was found necessary, during the past year, to add still more to the mass already accumulated in order to increase our knowledge of the effect of our drug upon menstruation. Our first returns left us a bit deficient in this, but the needed information has been very satisfactorily supplied by a supplementary series of provings made by my colleagues in Boston. This places altogether fourteen finished provings to their credit. Already fifty-three provings are set up, and my latest news is the records of two more, lost to hope for months past, are about to materialize, being actually on their way to Boston.

Kindly try to realize what this expression "setting up" means in this case. It means that every available evening for the past ten months, often when "dead tired" from a heavy day's work, always to the exclusion of either family or social life, I have sat and dictated material, previous to condensation, which has filled 720 full typewritten pages. That was finished long ago. For about three months past I have been at work upon the condensation of this immense mass of material, so that it will be readily available for study and for use in prescribing. This is a great labor in itself, and it will require some months more before all is ready for the printer. In the meantime kindly bear and forebear, feeling convinced that all that one busy mortal man can do is being done by me all the time to bring this work to as speedy a termination as is consistent with absolute thoroughness and accuracy.

Now as to results, so far as we are immediately concerned as specialists, I do not know that in the field of our three specialities any absolutely new applications of the drug will be opened up. It is *Belladonna* upon which we have been working, and we have had already a pretty fair knowledge of its application in our specialties. That was one reason why this particular drug was chosen for our test. What we have gained is a more scientific basis for our knowledge and an ability to prescribe the remedy on far more definite indications than before. We have a lot of objective symptoms, of much value, which can be added to our records of the drug's action upon the special organs, and more clearly defined subjective symptoms than heretofore. Thus we are distinctly gainers by the work done.

The general practitioners will, of course, find more points of interest in the specific results of our proving than we, because their field is so much larger. In my paper which was requested for the American Institute, I shall, therefore, go more into detail than now, and as you are all members of that body these points will be brought to your attention there rather than here.

In closing, let me assure you that the success of our proving and of our method of procedure is absolutely demonstrated. Let me also assure you of my continued effort to bring our results into the most desirable form for presentation, and to issue a book which will be a lasting credit to our O., O. and L. Society.

E. B. Hooker, M. D.: I move that this report be received and adopted with our thanks, all standing, a rising vote. Carried.

The President announced that the committee to report next year upon the resolution introduced by Dr. Bissell, in regard to memorial address every three years upon some topic, shall consist of Dr. Elmer J. Bissell, Dr. Howard P. Bellows, and Dr. C. Gurnee Fellows.

On motion by Dr. F. D. Lewis, duly seconded, a vote of thanks was passed to the Niagara Falls Hospital for the use of the hospital that afternoon and for the clinic and demonstration, the same to be communicated to the hospital authorities. The motion unanimously prevailed.

It was moved and seconded that a vote of thanks be extended to the members, Drs. Norton, Lewis, Bissell, Hoyt, and Bellows for their demonstrations, and all others who took part in the afternoon clinic. Carried.

The President read a letter from Dr. James A. Campbell, of St.

Louis, Mo. The President also called attention to the fact that while it was his endeavor to have on the program only papers that he felt at the time the program was made up would be here, causes which were unavoidable in three cases prevented those papers from being present. All the other papers were on hand. And as to the program, instead of arranging a whole lot of papers, many of which seemed to contain good ideas but which were read by title, the program was arranged, in view of the experience had at other meetings, so as to contain not many more papers than could be disposed of at each session; in that way all the papers were disposed of whether the writers were present or not; this is due not so much to those who write the papers as to those who come to hear them read, as men often come expecting to hear only certain papers. Three papers were left to be read by title; one has already been passed, and the other two are the "Cases of Immature Cataract," by Dr. Willard, and the volunteer paper by Dr. Fish. Dr. Fish is a homœopathic specialist practicing in New Orleans, and as he has no homœopaths to hobble up with there he associates with the allopaths, but he will probably eventually become a member of the O., O. and L. Society.

A motion, duly seconded, that Dr. Fish's paper be referred to the executive committee with power to act, unanimously prevailed.

In closing, the President said: I should like to close this meeting, letting my mantle descend upon the man who is to be my successor, and to sincerely thank all the gentlemen and ladies who have made it possible for us to have a meeting which I feel has been a sucesss. I should also like to expres, before I adjourn, my thanks to our Secretary here, who has charge entirely of the getting up of these discussions, and which have been such a prominent part of these proceedings, and also to all the other officers who have helped throughout the year in making the meeting a success.

In response to this, Dr. Roy S. Copeland, of Ann Arbor, Mich., said: "Before we adjourn, I think it certainly is in order that the thanks of our Society be extended to the officers, especially to our President, who has been untiring in his efforts to make this meeting a success. I am sure we all feel that it has been a great success; therefore, I move the thanks of the Society be so extended. If this is supported I will put the motion. As many as are in favor please say 'Aye.' It so prevails."

The President expresed his thanks, saying this is entirely unnecessary as he had only done his duty, and deeclared the meeting adjourned.

PRESIDENT'S ADDRESS.

HERBERT DANA SCHENCK, B. S., M. D.

WE are assembled in the Seventeenth Annual Meeting of this society, the eighth since its reorganization by a mere handful of men who were in attendance at the Detroit meeting of the Institute. Most of you recall the success of the first gathering at Buffalo, and we have come again to Western New York to gather inspiration from a spot where nature has been lavish in concentrating some of the grandest and most tremendously effective scenery in America, and where man has added almost as much to its wonders in his efforts to utilize the great power of yonder river in its rush to the sea, which has been unchained these many centuries.

It is certain that all of us need to gather enthusiasm and renewed effort for our organization if we are to continue it along the lines which have made it successful. Your president, therefore, deemed it wisest and for the best interest to follow the track of his immediate predecessors in his address, and point out what the year's experience has shown him to be the trend of the society work and what should be done to strengthen it, rather than present an address upon a scientific topic as has been done by some of the earlier executives. The comprehensive and admirable address of Dr. Rice only needs to have its main features amplified and brought forcibly to your attention, as he conceived the problems whose surmounting means a successful future for this society.

MEMBERSHIP.—It is great pleasure to note that the present membership is the largest in its history, comprising 170 active, one honorary, and three corresponding members. It has shown a steady and healthy growth, and for the first time in several years death has not depleted our ranks. Never before, however, in the several years your president has been an active officer, have so many members reported illness, some of a severe character. We may congratulate ourselves on having with us several who have been alarmingly ill the past winter and spring. Other familiar names on our programme are missed, as they have been compelled to early seek a needed rest.

OUR PROGRAM.—While the membership is very satisfactory, to those who have the preparation of a programme the fact is early presented that it is small for a national society aiming to keep its standard of work high, from which to secure papers upon subject of so diverse a character as to be of interest to the exclusivist in the various branches included in our organization as well as the general practitioner.

In arranging the plan of work it was deemed wisest to go back to the custom of our meetings previous to last year and have only one member invited to open the discussion. Instead of stimulating two, or more prepared discussions seemed to retard spontaneous remarks because the trend of the subject was lost in what was in many cases two or three papers upon the same subject.

To present a program that only provided for a few papers would not make it worth while for our members to journey long distances to take part. To prepare something that will interest all classes where only about 50 per cent. of our membership ever takes part in its deliberations, and where only 25 per cent. have loyally come to the front with papers year after year, is the problem you put upon your officers annually. The members have been most loyal in their support in the past, and have made possible the broad and catholic programs which have been presented. It is hardly to be supposed, however, that those who have so energetically and faithfuly done the work for the eight years since the reorganization can be expected to carry forward the work indefinitely. One of two things must happen. First, we must endeavor in every way to interest the younger men. Most of them seem to be excessively modest, and, although your president hoped to make this meeting strongly one where the younger men were represented, his most earnest efforts yielded such meagre responses that personal appeals to friends only saved the program from failure. We need the enthusiasm, the energy, the strength and the optimism of our younger members, who should feel that in this society, as in other spheres, it is the era of the young man. Dr. Holmes has well said that "New ideas build their nests in young brains; revolutions are not made by men in spectacles, and the whisperings of new truths are not caught by those who begin to feel the need of an ear trumpet." Encourage their membership, their attendance at the meetings, the taking part in our discussions, and, more than all, in presenting from year to year cases where there was triumph or failure, or where a line of treatment in a series of cases will enable some comments to be made. There is too much the feeling abroad that this society needs only elaborate papers

based upon long laboratory research or extensive clinical experience. Our members are carrying the scientific spirit so far that it will soon be our undoing if we do not awake to the fact that the most progressive medical organizations have found the case book and comments upon it the most helpful and practical as an every-day aid, for which our meetings are primarily held.

Secondly, If we cannot get the support of our young men it devolves upon those who have in the past made them progressive and powerful to still keep their shoulders at the wheel. It is unsafe and unfair to cause your president to make personal appeals to his friends as such to help him maintain the reputation of the Society. As each of you returns home resolve to stimulate to work some younger member, and to prepare for some help yourself. In this is the only safe course in future.

OUR RELATION TO THE INSTITUTE.—Dr. Rice presented eloquently, and at some length, in his address a year ago, the objections to a union. While his conclusions are correct, with conditions as at present, it seems to me that there may be changes made in the organization of the parent body that will make it not only possible but desirable for us to consider carefully our duty in this connection. Although in the last presidential address it was suggested that the time was ripe for action, none was taken, and there was nothing, then, from the Institute inviting amalgamation. At Boston, however, the Institute adopted the following resolution:

"WHEREAS, Changes have been made in the Constitution and By-Laws of the American Institute of Homœopathy providing for the concentration and incorporation of all subsidiary and sectional societies in the body of the Institute.

"Resolved, That all sectional and subsidiary societies be and are hereby invited and urged to thus join the Institute and become integral parts thereof."

It is now for us to give this our best consideration. We can all subscribe to the breadth of our work, and the future possibilities before us as a separate organization, which Dr. Rice predicted, but can we not broaden our field, secure a larger membership and interest in our meeting many who now know little of our work. by becoming a section of the Institute? Is it not worth while to think whether the Institute members who are not specialists but who say they are interested in noting the progress of the specialties we represent and miss from their transactions this special bureau report, should be considered? Some of these will at-

tend our meetings, and our whole horizon will be broadened and our work have a much larger hearing. It would practically be impossible for the same small body of men to prepare another program even half as extensive as ours, which would be what the organization of a bureau in the Institute would mean, provided we do not in time accept the invitation. Our only reason for existence as a separate organization of specialists is to demonstrate the superior efficacy of Homœopathy, and to show its relation to our special lines. We subscribe to the definition of a homœopathic physician, which was so aptly put by Dr. Eugene H. Porter in his presidential address before the "Homœopathic Medical Society of the State of New York," in 1898, as "one who adds to his knowledge of medicine a special knowledge of homœopathic therapeutics and observes the law of similia. All that pertains to the great field of medical learning is his by tradition, by inheritance, by right." Can we more effectively live up to this and force its truth home with greater energy while acting with the Institute or as a separate body? If the Institute becomes a truly sectional society and allows its sections complete freedom in the selection of their officers and in the preparation of the programs, gives each section representation upon its executive committee, and will permit each to censor its transactions, your powers for advancement will not be curtailed but widened. The Institute will receive a large increase in membership, and the expense of belonging to both organizations reduced from one-fourth to one-third.

While yielding nothing in loyalty to this society to any one, my sentiment for a separate existence is overpowered by the good we can probably accomplish in this wider field, while it will not lessen our present broad basis. Until, however, the Institute becomes a distinct sectional society, with the powers and relationship of the sections duly and carefully defined on the above lines, we are safer and can do better work affiliated as we are now.

Fifty-one of our members do not now belong to the Institute; almost one-third of our whole membership. This would be a very great addition to the Institute roll if they could all be brought into its fold. We must bear in mind, however, that a very large number of these will not affiliate with the Institute.

In 1901, section 4 of article V. of our By-Laws was amended by adding "and by becoming a member of the American Institute of Homœopathy before he has been a member of this Society for three years." This provision has never been enforced, and, until the present conditions are changed, ought not to be with this large number of our members

outside of the Institute. We can best afford to await the outcome of the next year or two before taking a definite stand in this matter.

CLINICAL CASES.—Another phase of our relationship to the Institute is the clinical work which was so auspiciously started at Boston, and which was the wish of many to see repeated. It was thought by your officers that it would be impossible to have such a feature after Niagara Falls had been chosen by the Institute for its meeting place. Our members from Western New York were sanguine, however, that cases could be secured. The campaign was opened by a visit by the president to many of our members in Rochester, Buffalo and the hospital here last August. Other visits and repeated inquiries and appeals have only brought out the rather meagre result which we have on our program. If we continue to meet at the same time and place as the Institute, which has shown a tendency to avoid medical centres, we shall be obliged either to make this feature a very small part of our program or hold our meeting at another date, and at some point where hospital facilities and cases are obtainable.

MATERIA MEDICA.—In many of our presidential addresses the need of giving especial attention to homœopathic therapeutics has been yearly dwelt upon, but nothing definite has been done to make this a practical part of our work. The present adminsitration early took up this matter, and at the close of the last meeting outlined a plan for something definite in the reporting of cases illustrating the homœopathic action of our drugs. The outline for a symposium was commended by those of the members who were consulted in Boston, where an outline of a case was given and suggestions made for each to be on the lookout for cases in his records which were treated by the single remedy, and if adjuvants were used, to report only those where it seemed a fair inference that the remedy was the means by which the cure was effected.

Two facts have developed in connection with this work:

First, That members through imperfect records or failure to carefully observe the actions of their medicines did not have the material to report upon the curative action of a single homœopathic remedy; and,

Secondly, That several confessed not to prescribe drugs for any ocular diseases, contenting themselves with local treatment alone.

The writer recalls that when he began practice twenty years ago the late P. P. Wells was the Nestor of the homœopathic profession in Brooklyn, and made the monthly meetings of the county society the place to report cases and to add the homœopathic therapeutics to such

papers as did not include them. Dr. Wells and a few of his colleagues, who were founders of the society, delighted to keep up the earlier traditions where only Homœopathy and homœopathic remedies were discussed. While many of their claims may have ignored the natural tendency of disease to get well and other factors that contributed to a cure, their reports furnished an encouragement and incentive to increased effort in the difficult field of homœopathic Materia Medica. It is certainly not desirable to claim, as many of these earlier disciples of Hahnemann did, that their remedies were the sole thing that brought about a cure in every case, but we must be careful not to let the pendulum swing as far the other way, and to ignore this field because of a too critical and skeptical a spirit.

If the plan adopted at this meeting does not prove all that it was hoped for, it should be a basis for some plan of broadening and perfecting our knowledge and use of drugs according to the law of similia. In no other field can we add so much to our permanent store of knowledge or acquire the incentive and inspiration for successful work for our patients throughout the year. The therapeutic nihilism of our brothers of other schools in most intra-ocular troubles and aural diseases, which we can confidently meet with our remedies, ought to place us in the vanguard of prosperity and enduring sucess. No member can fail to do his whole duty in perfecting this part of our armamentarium.

THE THERAPEUTICS OF DIONIN.

BY J. IVIMEY DOWLING, M. D.,

Albany, N. Y.

OPIUM is a substance of complex chemistry. Its many components are variously dissimilar. The alkaloids are of greater therapeutic value than the derivatives, and of the former, morphine is pre-eminent as a remedial agent and likewise because through the action of hydrochloric acid it is made to yield a derivative known as apomorphine, which possesses powerful emetic action. Until comparatively recent times, this was the only derivative recognized as possessing any valuable therapy, but that is true no longer, for through the arts of science a synthetic product has been evolved and drug therapy enriched with a remedy that is the hydrochloride of ethylmorphine, and which is rapidly becoming known under the name "Dionin."

The positive actions of this drug were emphasized by Darier, whose writings are classic records of experimental investigations. His observations are detailed with the accuracy of genius, and the conclusions advanced are sustained by the results of repeated experiments.

Since the publication of Sydney Stephenson's English translation of Darier's "Ocular Therapeutics," a number of articles have appeared in American medical publications in which the cases cited substantiate many previous claims and emphasize its special virtues as a remedy in ophthalmology.

The purpose of my paper is to record the results of personal observations which accord with the experience of others, and, furthermore, suggest the probable efficacy of dionin in diseases of the ear, nose, pharynx and larynx, for the results obtained in a series of such affections warrant additional study.

My interest in the possibilities of dionin therapy was aroused through reading the writings of Darier, but actual faith is the result of personal investigation of its therapy in disease, and action upon healthy eyes, including my own. My conclusions are based on the evidence of repeated observations upon over one hundred individuals.

I have employed the powdered drug and solutions from one-half of 1

per cent. to 5 per cent. in strength, and noted the effects in diseases of the conjunctival sac, cornea, iris, lens, optic nerve, retina and choroid, and have been impressed with its resolvent action in hæmorrhage into the vitreous, iritis with posterior synechiæ, and its potent analgesic action in glaucoma, or, in fact, almost any ocular inflammation associated with pain. Since patients establish a tolerance after repeated use, I employ a weak solution primarily and increase the strength as required. When used as a collyrium, a few drops may be instilled into the conjunctival sac as often as necessary to retain the desired results, and since its period of activity differs with the individual the dosage intervals must be guaged accordingly.

It is essential to understand the patient's subjective sensations and objective appearance of the eyes, for otherwise the patient would be fearful and the physician disconcerted. Its application to the conjunctiva is soon followed by congestion and chemosis, which rapidly increases, causing a sensation of fullness and some difficulty in rotating the eyes. The patient is likewise apt to complain of smarting, itching and scratching, as if due to foreign bodies, such as particles of sand. Sneezing occurs in some cases. These annoyances usually prevail from five to fifteen minutes, after which they and any former pains lessen until no longer evident. However, in one case the discomfort continued for forty-eight hours.

The results of my investigations and those of other observers compare favorably, and seem to indicate a dominant and satisfactory action which might lead to the belief that the drug is truly specific; but since all rules are proven by their exceptions, so also the wonderful virtues of dionin are exalted because of occasional failures even when conditions most strongly indicate its need and probable efficacy, but on the other hand, the speedy cures of previously intractable affections excite an enthusiasm held in check by the disappointment of failures.

In addition to using it in the treatment of ocular affections, I have observed its actions upon the ears, nose, pharynx and larynx, and believe it will eventually be an accepted agent in the treatment of these special parts, but my data is as yet insufficient to warrant judgment; but, nevertheless, enough to suggest its use for the relief of uncertain pains experienced by those of nervous temperament, and located in the nose, pharynx or larynx, and complicated with impaired glandular action of the mucous membrane and associated dryness and frequent anæmic state. It has afforded marked relief in some cases of chronic middle ear affections in which the membranes are dull, atrophic and re-

tracted. A 5 per cent. solution instilled into the external auditory canal imparts a sensation of clearness and subjective improvement in hearing, although functional tests have failed to corroborate these facts. However, the relief is such that patients request its subsequent use. I hope to determine its true sphere of usefulness in these conditions in future experiments.

Dionin is a white crystalline powder, slightly bitter and easily soluble to the extent of 14 per cent. in water at ordinary temperature and to a less degree in alcohol. The commercial preparations may be obtained as a powder, and in one-fourth grain tablets, which are dispensed in amber colored bottles. All of my observations are from the effects obtained with Merck's tablets, which are convenient for office use in preparing fresh solutions in small quantities and of accurate strength. I am unable to state the possible effects of light upon the powdered drug or its solutions, and since I have never met any reference concerning the question, I wrote to Merck & Co., and requested information in answer to the query, but was never favored with a reply to that matter, although I am indebted for other courtesies relative to the matter. My personal conclusion is that the action of light is negative, for I have experimented with solutions kept both in white glass and amber bottles, but neither solution seemed to be altered in the slightest.

Dosage and Combination.—Darier originally experimented with powder, but replaced it with solutions of varying strength, and, finally, selected a solution of 5 per cent. as most useful, but mentions the use of a one-half per cent. to one per cent. by a colleague. This drug may be readily incorporated with solutions of eserine, atropine, pilocarpine, cocain and other collyria or added to ointments. It may be prescribed for systemic affections in doses of one-fourth to one-half grain.

RANGE OF ACTION. *Systemic.*—Taken internally it is chiefly useful in pulmonary affections for the relief of the associated irritating coughs. It facilitates expectoration, and is also reported to have controlled dyspnœa and relieved asthmatic attacks. Satisfactory, quiet sleep may also be induced. It is used as a sedative in certain phases of periodical insanity, and is said to be a valuable substitute for morphine in the treatment of morphinism. It is readily eliminated because of its ready solubility, and generally conceded to be non-toxic, although Merck labels it "poison."

Local.—Its local action has been chiefly studied from experiments in ocular affections, which have determined its value as an analgesic and virtues as a lymphagogue.

Objective Effects.—Its superficial action is evidenced by chemosis of varying degree from slight to such severity as to overhang the cornea. Conjunctival congestion is proportionate to the chemosis, and affects both the bulbar and palpebral parts. The cornea may appear brighter, and, in many instances, actual cloudiness of recent origin is lessened.

Although the action upon the superficial parts is most readily appreciated, ophthalmoscopic observations prove that the deeper parts may likewise be influenced and affections of the iris, lens, retina, choroid and even the optic nerve may be benefited through its use.

Subjective Effects.—Dionin is pre-eminent as an ocular analgesic that soothes pain without destroying sensation. When applied to the conjunctival sac the irritating pains of conjunctival and corneal affections are subdued; the aches and pangs of iritic inflammations are usually controlled, and the typical paroxysmal, agonizing ragings of glaucoma ofttimes abate and may frequently be indefinitely controlled through its repeated use.

Therapy.—Ocular pain and inflammatory effusions are symptomatic indications that call for dionin, and although more useful in some affections it is potent in most painful diseases of the eyes.

The appended records are interesting and illustrate graphically the positive usefulness of this valuable drug.

Case One. Mrs. A.; diagnosis, catarrhal conjunctivitis with intense photophobia, pain and coincident blepharospasm. The condition had resisted appropriate treatment, and for three days the patient had been confined in a darkened room, and the eyes additionally protected with pads. The least light caused intense agony and necessitated an expeditious, superficial primary examination, from which I observed that the lids were tightly closed and swollen. I made use of one-half of 1 per cent. of dionin solution, instilling two drops in each conjunctival sac. It caused trifling subjective sensations of scratching and smarting, but these soon disappeared with coincident relief of pre-existing distress, so that in five minutes the patient permitted the pads to be removed from the eyes. The window shades were then rolled up and the room flooded with light from two large windows. Shortly the patient opened the eyes, at first cautiously, then without fear; for she experienced absolutely no discomfort from the strong light. *After an additional wait of five minutes I was able to make a satisfactory ophthalmoscopic examination of both eyes.* I then advised the room to be kept light and no shade to be used over the eyes, and, furthermore, that no lotions should be used, and the dionin solution repeated only in case the pain or other symptoms returned. Twenty-four hours later I saw the patient, who declared herself well, and volunteered the information that since the drops had been used every disagreeable symptom had ceased, and no

drops had since been employed. Several weeks later I saw this patient again, and she had been able to use her eyes for all purposes without discomfort of any kind.

CASES ILLUSTRATING EFFECTS ON CORNEA.

Case Two. George K.; dense corneal opacity occupying pupillary area and forming the apex of pyramidal punctate deposits over the lower half of Descemet's membrane. The condition resulted from a severe inflammation two years previous. Vision $^{6}/_{200}$, possible *only* by *bending the head forward* so that objects could be seen through the upper pupillary segment. I was first consulted on January 9, 1904. After using dionin solution one-half per cent. strength for four days, the vision $= {}^{15}/_{200}$ *with head held erect.* The central scar appeared softened, and the punctate deposits below less evident. The patient then suffered from an attack of grippe with complicating cyclitis, which resulted in punctate deposits over the entire surface of Descemet's membrane, although the central opacity seemed to be lessening. The use of atropine solution 1 per cent., and dionin solution one-half per cent., established mydriasis. The active inflammation subsided and the deposits on Descemet's membrane gradually disappeared with coincident clearing of the central opacity, and on May 6, 1904, the vision $= {}^{15}/_{30}$? the mistake being in calling "F" "E." The central opacity is trifling, and Descemet's membrane otherwise free of deposits and the fundus is easily studied without dilating the pupil.

Case Three. Mrs. C., age forty-eight. Central corneal scar due to corneal ulcer in childhood. Vision $= {}^{15}/_{200}$ on September 16, 1903. After use of dionin for one month vision $= {}^{15}/_{100}$, and was the same in February, 1904. The only change in the nebula was a lessened density which instead of being equally dense became mottled with minute transparent areas. This case is recorded because improvement ensued, although the scar had been present for over thirty-five years, although the result is nominal.

CASES ILLUSTRATING ANALGESIC AND RESOLVENT ACTIONS.

Case Four. P. S.; iridocyclitis with total synechia, rheumatic origin, vision nil. Duration uncertain, but had had no treatment and was led to consult me because of impaired vision. Powdered atropine failed to effect mydriasis, and the added use of two per cent. dionin solution was unavailing. Finally, after the frequent use of powdered dionin and ten per cent. solution of atropine for five hours, the upper part of the pupil yielded at a single point, and ten hours later there was an irregular dilatation most marked above. Encouraged by these positive effects I continued both dionin and atropine, and twenty-four hours later the upper two-thirds of the pupil was widely dilated, and the lower one-third merely held by a few thread-like synechiæ. The further use of dionin and atropine tore these from the lens capsule, and within the ensuing twenty-four hours maximum dilatation was established. Under appropriate care a cure obtained, and at this writing, vision $= {}^{15}/_{15}$.

Case Five. Mrs. Wm. E., age fifty, consulted me October 19, 1903,

for relief of constant intense pain, loss of vision and other symptoms of extreme degree affecting the left eye, which had persisted for an unknown period despite careful attention usually successful. Objective examination showed a contracted pupil held fast by posterior synechiæ and the entire uveal tract seriously inflamed. The vitreous was so clouded as to prevent satisfactory examination of the fundus. Vision was reduced to $^{15}/_{70}$. The use of atropine two per cent., and dionin one-half per cent., relieved the pain within half an hour. This solution was continued at hourly intervals, and full mydriasis established within forty-eight hours. On December 4th, or forty-seven days from the first treatment, all inflammation had abated and vision $= {}^{15}/_{20}$. The pupil responded readily to action of light and stimulus of accommodation. Despite the patient's age and the frequent, prolonged use of atropine, there was no increase of tension at any time during the treatment.

Case Six. Patient affected with specific iridocyclitis of both eyes. Symptoms severe, pain intense, numerous synechiæ in the right eye and a few in the left. Vision reduced to objects at three feet. Under the use of atropine two per cent., and dionin two per cent., the symptoms abated, synechiæ torn and full mydriasis obtained, and after eighty-six days the vision had attained an acuity of $^{15}/_{20}$ in the right eye, and $^{15}/_{15}$ in the left. At a later period the patient suffered a relapse in the right eye, and when seen the pupil was again held by numerous synechiæ, and a two per cent. atropine solution proved ineffective, but the addition of five per cent. dionin established full mydriasis, the synechiæ giving way within ten hours, leaving a complete circle of pigment dots on the lens and showing that total synechia had been present.

In this patient dionin solutions from one per cent. to five per cent. had only moderate analgesic action, but there ensued decided increase in the retinal œdema and clouding of the vitreous, so I avoided the use of stronger solutions. Having obtained satisfactory dilatations of the pupils, I discontinued the dionin, after which the vitreous rapidly regained its transparency and the fundi resumed their normal state.

Case Seven. This patient is a physician and a member of this society, and the facts of interest are sufficiently stated in a letter received from the doctor and herewith appended:

January 10, 1904.

"My Dear Dr. Dowling:—

"At the time of your call, as you remember, I had been suffering severe pain in my eye for three or four days. This came in spite of my best treatment of an iritis, which had developed three or four weeks previously. From the beginning of your prescription of dionin and frequently changed hot water applications, the pain and inflammation gradually subsided, and the vision correspondingly improved, and a week later I was up and dressed, and on the road to rapid recovery.

"Fraternally yours,

"J. H. HALLOCK."

CONSIDERATION OF IMPAIRMENT OF VISION, WITH CASES.

Darier records a case of retro-bulbar neuritis due to cold, in which the vision improved rapidly while employing dionin, but adds, "I could not believe that dionin was able to produce such an effect." He had employed dionin but once in this case, and while lacking additional proof, mentions it as "an agreeable coincidence."

After having made a number of observations for the purpose of deciding this point, I am satisfied that a collyrium of dionin is sufficient to effect marked and rapid improvement in visual acuity when employed in appropriate cases.

The conditions in which I have obtained decisive results have been acute and chronic retinal inflammations of the so-called "idiopathic type," but in such cases I have determined the presence of coincident involvement of the ethmoid cells and hypertrophic or turgescent state of the anterior portions of the middle turbinated bodies. These ocular and nasal affections are so frequently associated that I believe many of the so-called idiopathic cases of retinitis are, in fact, occasioned by pre-existing involvement within the nasal fossæ or accessory sinuses. In my experience the middle turbinated bodies and ethmoid cells have been most often at fault.

Judgment concerning this class of cases is based upon the patient's subjective evidence and the more positive proof adduced from objective ophthalmoscopic and rhinoscopic observations both before and after employing a collyrium of dionin, and in all cases in which the vision was improved I observed that the fundus abnormalities were influenced by the degree of the nasal complications. Furthermore, I have observed that the improved state of the fundi and allied visual increase were prolonged in some cases and transitory in others. The reason for the disparity, I believe, is explained clinically in that while the ethmoid cells drained more freely than formerly and the turbinated turgescence continued relieved, the benefit to the eyes was sustained, but with the recurrence of turbinated engorgement and either purulent or mucous accumulation in the ethmoid cells, there was coincident retrogression in the ocular conditions.

I herewith submit brief statements of results noted in two typical cases which corroborate my claims:

Case Eight. Miss H., age thirty-three, who suffered from daily frontal and occipital headaches, consulted me under the impression that a change of glasses would afford relief. Although glasses had been

changed frequently during the past five years, her headaches continued. Examination revealed slight venous congestion of the right fundus and decided neuro-retinal œdema in the left eye. V. — O. D. = $^{15}/_{20}$, O. S. = $^{15}/_{100}$. The nose presented the typical picture of chronic hypertrophic rhinitis, and the pronounced turgescence of both middle turbinated bodies occluded the drainage of the middle meati and the ethmoid cells were involved. The left naris was more decidedly involved, and drainage of the middle meatus and ethmoid cells impossible. A one per cent. solution of dionin was instilled in each eye and depletion of the nasal parts effected. After a period of two hours, the headache was scarcely noticed, and *vision of the O. S. had attained an acuity of* $^{15}/_{20}$. The ophthalmoscope revealed but trifling change in the O. D., but a marked subsidence of the pre-existing conditions in the O. S. was evidenced.

Subsequent observations detected no retrogression, and the state of the nose continued to improve under appropriate treatment.

Case Nine. Mrs. V., age sixty; condition of eyes and nose were similar to case eight, but of less severity. The V. — O. D. $^{15}/_{200}$, O. S. $^{15}/_{200}$. Depletion of the nasal parts and use of two per cent. solution dionin in the eyes relieved the headache and vision improved to O. D. $^{15}/_{70}$, and O. S. $^{15}/_{40}$, with coincident improvement of the fundi. However, six days later the examination showed the action of dionin had been merely temporary as revealed by ophthalmoscopic examination, and visual tests showed that the O. D. was again $^{15}/_{200}$, but that of the left eye still retained some improvement, being $^{15}/_{100}$ in place of $^{15}/_{200}$. Rhinoscopic examination revealed the conditions first recorded.

Although the patient realized the marked improvement subsequent to the use of dionin, she protested against its repetition, because of the severity of the subjunctive irritation, which did not abate for forty-eight hours. Under the circumstances, the use of dionin was discontinued.

The foregoing cases were selected from the accumulated evidence amassed from repeated observations upon over one hundred individuals, and are representative of the positive action of dionin. As previously stated, I have employed this drug in cases of cataract, glaucoma and other ocular affections in which the results are encouraging but insufficient to warrant judgment.

I have also observed its effects upon conditions of the ear, nose, pharynx and larynx. The results warrant additional investigation, for in two cases of pharyngeal pain its use has been satisfactory in five per cent. solution used as a spray repeated at hourly intervals. It has also afforded temporary relief in some atrophic naso-pharyngeal affections when employed as a spray in five per cent. solution.

Its potent analgesic and lymphagogue actions suggest its field of ac-

tion, which ophthalmic therapy has recognized, and dionin may sometime ere long be accorded a place in the therapy of the ear and nasopharynx.

DISCUSSION.

David W. Wells, M. D.: Darier's "Ocular Therapeutics" has proved an inspiration to so many of us that it seems destined to become a classic. The enthusiasm of our French confreres is a healthy antidote to the spirit of therapeutic nihilism, which is becoming so widespread. I have been using dionin for just a year. Concerning its analgesic property there can be no question. I have never known it to fail if there follows the characteristic chemosis. I reported to our State Society last October a number of cases of iritis in which it worked like magic. We must not confuse relief of pain with cure of disease, though from the patient's standpoint the former is no mean accomplishment.

The lymphagogue action does increase the absorption of other local applications. This does enable us to reach the diseased tissue much more quickly than by systemic medication. The question which concerns us is the title of the paper, "The Therapeutics of Dionin."

While I perfectly agree with many of the conclusions of the essayist in his most convincing presentation of the subject, there are some points which I am constrained to question. In regard to solubility my experience is at variance; 36 gr. to the oz. or a little more than 7 per cent. is the strongest permanent solution I have been able to make without heat. With heat it is possible to make a perfectly clear 30 per cent. solution, but it soon precipitates, and in a few days becomes a pasty mass. In some cases, which showed only slight reaction or developed a tolerance, I have applied this paste to the everted lower lid without any excessive discomfort to the patient. The pain of dionin, in whatever strength it may be used is, as the doctor states, a matter of idiosyncrasy. To the majority the smarting and burning is not greater than that of the cocain which precedes it. We have most of us been taught to regard the appearance of chemosis in diseases of the eye as an unfavorable symptom. Darier claims that the curative effect of dionin is in direct proportion to the chemosis which follows its use. If artificial chemosis is beneficial to a diseased ciliary body and iris, may it not be nature's way of combating the disease? The cases illustrative of effects on the cornea seem to me to be worthy of further analysis. Darier says (p. 64) :: "To expect to clear old leucomata by dionin appears to me to exaggerate the importance of its action. An appreciable bettering of sight, however, has been noted in some cases. It is probable that it then acts on very slight nebulæ encroaching a little on the pupillary area of the cornea." It is a matter of common observation that a well defined leucoma, though very dense, often interferes but little with sight, if there be ever so small a pupillary area which *is* clear.

On the other hand a nebula which is only discoverable with oblique light or the cloudiness of keratitis curtails vision immensely.

In case two, beside the "dense opacity occupying the pupillary area," there were punctate deposits over the lower half of Descemet's membrane. Then after four days there occurred the "complicating cyclitis, which resulted in punctate deposits over the entire surface of Descemet's membrane." The improvement of vision, from $^{6}/_{200}$ to $^{15}/_{80}$, after four months' treatment is, at first thought, truly wonderful, but is it not probable that the *reduction* of vision to $^{6}/_{200}$ was largely due to the acute disease, with an accompannying leucocytosis of the membrana propria, and may not the *improvement* in vision be due very largely to the cure of this *comparatively* acute lesion.

Case three was evidently an old scar, and the improvement here was only from $^{15}/_{200}$ to $^{15}/_{100}$. This is not greater than the difference noted in a defective eye on subsequent examinations. This criticism is not offered in order to belittle the success of the cases, but because it agrees with my own experience. I have carefully studied during the spring a case of scleritis with sclerosing keratitis. When the inflammatory stage subsided, there remained a somewhat dense central opacity with some diffuse haziness. Vision was .5. Under dionin and subconjunctival injections of sodii saccharinate, vision soon became normal. The cornea quickly cleared up to the margin of the denser central spot, which became somewhat punctate, but repeated injections and instillations have failed to make any further impression. My conclusion in regard to my own cases is that they improve, treated locally or by internal medication, *if treated soon after the inflammatory stage.* We know that the transparency of the cornea depends upon the parallel arrangement of the fibres, and I am forced to believe that the nebulæ resulting from a breaking up of this parallelism are not amenable to any treatment. I trust that some one better versed than myself will discuss the relation between rhinitis and retinitis. The evidences of such relation seem very strong in the cases quoted. We are all indebted to the doctor for a very instructive paper. He states that dionin is a "specific," but does not say for what, and the cases quoted would lead one to infer it to be a panacea. I believe it is, without question, a "specific" for ciliary pain, and that it aids the absorption of other remedies.

Such an exhaustive paper as this would seem to merit a more exhaustive discussion than I have offered you. I have been obliged to confine my consideration of the subject to the effect of dionin on the eye, as I do not treat the other affections in which the doctor has used the drug.

One incident illustrating its action occurred in a patient of mine who had iritis. The first day he presented himself and said: "Put me in a hospital; I cannot stand it; I have so much pain." Evidently there was good mydriasis, as the case had been treated by a colleague. I do not know what other medicine was administered, but he suffered so that that was his first salutation. I had secured a five per cent. solution of dionin and instilled, after cocainizing, one or two drops, and asked him

to wait in the reception room a few moments. I looked at him again in ten minutes, and he said: "I am all right." I found the conjunctiva was swollen and chemosis developing. The result was I had him remain an hour. I simply used dionin and atropine, and the case made an uneventful recovery. The effect was so perfect that I was very much encouraged for future applications.

After listening to the doctor's paper some points impressed me which I did not get in my own reading of it, and that is, he seems to have always been successful in breaking up synechiæ with dionin and atropine. I must confess that I have not been able to do this. I have had several failures, and one, notably, in the case of gumma of the iris. The case had been running two weeks before I saw it, and several small gumma had been formed, several in one eye and two in the other eye, I think. I administered the drugs as thoroughly as ought to be, both atropine and dionin, but the case went on, gumma developed and nearly filled the anterior chamber. The case is improving now, but I do not see that my dionin did any better than simple atropine would in a similar case; at least, it did not break up my synechiæ; and I want to ask the doctor, when he closes, to say whether he had any failures in breaking up synechiæ.

G. DeWayne Hallett, M. D.: Every once in a while something new in medicine, therapeutics, etc., presents itself. The accounts of its use, because of the disire of experimentors to try it in the various interesting diseased conditions that come before them, are variable, but after a time the true sphere of the preparation is presented. I believe that in dionin we have a great remedy for which, with time, very definite indications will be made and followed. I have been extremely interested in using dionin, and in reading the reports of Darier upon it; the one thing I noticed was that he makes a combination of dionin with other drugs a good deal of the time, so that it was difficult to sift out from his writings just the conditions for the dionin. Because of that and large claims made for cyanide of mercury, subconjunctivally used, I began some several months ago to use it, and have since used it in a great many different conditions and cases. I have used also the cyanide of mercury in a great many cases; but very seldom, in fact, only in two or three cases (and they were the first I experimented with), did I permit myself to use the two preparations together, because I wanted to know exactly what they were going to do individually. I have used dionin in a great many eyes where I was not looking for therapeutic results, but simply to study its action, and that effect is very variable. As we see its effect upon the conjunctiva, in some cases there will be a very trifling chemosis, and in others, most cases, a very considerable chemosis, and in a few cases most extraordinary chemosis.

I have used dionin in one case of chronic interstitial nephritis with albuminuric retinitis in which, from one instillation, a chemosis and an œdema of the palpebra continued for eight days.

In my observations it occurred to me to see what effect upon the physiological result of dionin, adrenalin would produce. It was a case

where I had used dionin before, and knew just how much chemosis there had been in that patient, and adrenalin reduced that chemosis just about one-half.

In the ordinary cases where dionin was used experimentally, I found the smarting was quite considerable, and that it passed off, as a rule, in about two minutes.

David W. Wells, M. D.: Was cocaine used before the dionin?

Dr. Hallett: No. I found the other feelings of dionin were stiffness, and afterwards some little itching, and it did occasionally provoke sneezing, not very often, and the stiffness varied. I found dionin acts very nicely in ointment preparations. I will quote a case:

A woman of sixty years of age had an attack of facial herpes complicated with ophthalmic herpes, and the result of it was to form a very vascular scar, representing the edge of the cornea, usually exposed with the lids ordinarily open, the upper and lower portions of the cornea being quite clear. It was so dense that it was impossible to observe the size of the pupil except that by getting up and looking down you could see, under the scar, enough to make out the pupil. This had existed for something over two years before I saw the patient, and I treated her over a year before I used dionin, and my treatment consisted of various things. By the way, there were very considerable calcareous deposits in this scar, which were very irritating. Among my various treatments of this patient was the absolute removal of all scar tissue down to the cornea, but it reappeared, and the lime deposits reformed. At length I put my patient on the ointment, four per cent. to be used every third night, a small particle about the size of a split pea. This patient ceased to have pain right away. She lives out of town, and has come to see me at intervals of about two weeks, and she has used it now, I should say, five months, right straight along, and the scar seemed to disappear evenly, regularly and satisfactorily, until now there is almost none. This scar, of course, in the first place, prevented my seeing the pupil at all. Now the pupil is very easily seen.

I will mention a case of simple cyclitis in a man of twenty-seven years of age, which had existed some six or eight weeks. His vision was reduced to the counting of fingers at a distance of three feet. There was a hazy anterior chamber, dilated pupil, innumerable punctate spots upon the posterior surface of the cornea and very slight deposits in the vitreous. Dionin, five per cent., and eserine, one-half of one per cent., equal proportions, were used. The case improved from the start. The aqueous cleared, the punctate spots melted away, the vitreous cleared, and the patient's vision when I last took it was $^{20}/_{20}$, missing two or three letters. I think we ought to thank Dr. Dowling for presenting so exhausting a paper upon a subject so very interesting.

C. Gurnee Fellows, M. D.: I should like to ask the essayist, when he closes, to tell us whether dionin used as a spray in the nose depletes the tissues as does cocaine and adrenalin, as well as relieving pain? Also whether we are warranted in continuing it if we get no reaction or

chemosis, and, if so, how long—how many weeks or months? I have had good success with it.

John L. Moffat, M. D.: I should like to ask whether the chemosis is essential? The suggestion that adrenalin had reduced the chemosis might help us to understand that. I do not recollect whether there was just as much relief from pain with the adrenalin as without it.

George M. Shepard, M. D.: My experience has coincided with Dr. Wells's. In reference to breaking up adhesions, while I failed to break up adhesions with dionin, there was hardly a case where I could not break them up with atropine.

I think it was Darier who stated his experience had led him to feel that the curative effect of dionin rested in great part upon the reaction of the drug, and he advises, after a few days, to stop the drug and then renew it a little later, in order to keep up a constant reaction.

The most remarkable result I have had in any case showed absolutely no reaction after the drug, no pain of any sort. The patient was about sixty-five years of age. I performed a cataract extraction, after which the wound healed promptly, and, apparently, the result was perfect, but within three or four days a pronounced irido-cyclitis developed, and a good deal of plastic exudate was thrown out. The pain was very excessive, and continued for nearly two weeks. At the end of two weeks an ulcer formed at the lower part of the cornea, and I have rarely seen a case that suffered so much pain. After one instillation of dionin, five per cent., she was greatly relieved, and passed a good night. It was put in during the afternoon, and from that time on without any other change in the treatment she improved and made a very quick recovery, and had no return of severe pain. I speak of that because there was in that case absolutely no sign of any reaction, no redness of the eye, and yet the action was positively that of dionin. I have had very good results in many cases. I have not had a single good result in any case of interstitial keratitis. That has been my misfortune.

Thomas M. Stewart, M. D.: I think Dr. Dowling has complimented himself in the manner in which he has presented this topic for discussion. I did not begin the use of dionin as early as I might have done had it not been for that germ of therapeutic nihilism that has gotten into a good many of us, even the homœopathic physician. I have used so many remedies locally, and failed to obtain the effects accredited their use by those who say they have gotten good results, that I feel skeptical.

My experience with dionin is not so extensive as that of Dr. Dowling and Dr. Wells. I am encouraged with the results in a number of cases, but discouraged by the results in a number of other cases. I wish to speak of the case in which the doctor had occlusion of the pupil. It called to my mind two things: one, a case in which I was called in consultation some distance from my own home and found the doctor having a case of old iritis with what he thought was a good result from the use of atropine and dionin getting dilatation of the pupil, but in my examination I found he had no vision; he had light perception and light projection, and my diagnosis of the case was a retraction of the mus-

cular fibres, leaving the pigmentary layer attached to the lens. The case was operated by spliting the fibres of the iris transversely and getting very fair results in that way.

Now, synechia is a thing that bothers a good many of us, as Dr. Sheppard has stated, and I thought it might perhaps be just as well to mention the value of hot applications in cases, if we see them early enough, after failure from the use of these drugs to dilate the pupil and destroy synechiæ. Hot applications used for twenty minutes, every two hours, for a period of twenty-four to thirty-six hours, have been, I think, of great value to me. The use of a paracentesis, prior to the use of the mydriatics, is the next best thing, and I think a legitimate step in the management of some of these very troublesome cases.

J. Ivimey Dowling, M. D.: In the first place, I want to correct Dr. Wells's impression as to my statement regarding its action. I do not know whether Dr. Wells is astigmatic or not, but I fear he may be, for in his reading of my paper he either misread or overlooked some essential words that qualify the meaning of some statements, and hereby obtained the impression that I claim dionin to be a specific. On the contrary, I abjure any such claim, for its belief would prove disappointing and discourage the use of the drug, which, however, is possessed of unequaled, but in now use specific, therapy. For the purpoe of emphasizing the actual facts relative to this point, and with a desire to avoid ambiguity, I herewith quote from my paper the following statement: "Results of my investigations and those of other observes compare favorably and *seem* to indicate a dominant and satisfactory action, which might lead to the belief that the drug is truly specific; but since all rules are proven by their exceptions, so also the wonderful virtues of dionin are exalted because of occasional failures even when conditions most strongly indicate its need and probable efficacy. But, on the other hand, the speedy cures of previously intractable affections excite an enthusiasm held in check by the disappointment of failures. Now, as to whether I am always successful in combating synechiæ or not, I must say so far I have been, but no doubt I will some time run across a case in which I will not be. But it is an essential thing to use this drug more than in a timid manner. You have to use it as Darier tells you, "right straight up." If you do not get reaction in one strength, use it stronger. If I fail to obtain the desired results with one-half per cent., then I use a one per cent. solution, and if that fails stronger solution, and in some cases the powder itself, but I watch my patients.

As to the second case, Dr. Wells suggested the possibility of the patient's vision having been impaired by the acute disease, but when the patient first consulted me there was no active disease present, but that appeared subsequently, as a complication of la grippe. The patient originally consulted me for relief of impaired vision, which had been present for two years. Several skilled oculist had advised him that there was nothing to be done, and I told him I do not think I can do anything, but I have a new drug and would like to try it, if you will

APR 9 1897

agree to submit to the experiment." He was delighted, and so was I with the result.

Now, as to the reason of its improving vision where the cornea is at fault. It is possibly effected by a rearrangement of the fibres, the transmission of light rays being deflected or made imperfect because of the fibres having been disarranged by disease, infiltration, or something of that sort, and then action of the drug effects rearrangement and parallelism of the fibres. That is only a theory, and it is not original, but I give it for what it is worth.

As to combinations of dionin with other drugs, I have purposely avoided them, but I have used it with atropine and eserine, but only after atropine or eserine had been used singly and in progressive strengths and had failed to accomplish the ends sought. In severe conditions both of these preparations should be pushed, but the patient kept under close watch while doing so.

As to Dr. Fellows's question if it is necessary to secure chemosis to obtain satisfactory action, Dr. Shepard has answered that question, and his statement accords with my own observations that it is not always necessary. You get the action in the eye sometimes without chemosis, although you should have chemosis in the conditions dependent upon plastic exudate, and when present I feel more satisfied I am gong to get the result.

And as to its use in the nose as a spráy, I use it in a five per cent. solution, and I also apply it by means of tampons put into the nasal fossæ, but it does not give the free, comfortable breathing space cocaine does; far from that. In the first place, the patient is stuffed up and may say: "What a terrible cold I have." And if anybody hears him sneeze they will say: "You have a terrible cold, you must see a doctor." That is the primary effect; but in cases where you want to excite the lymphagogue action, it is a fine remedy, but my conclusions in regard to that are not positive yet. In nose and throat conditions I have had the best results in affections in which the glandular state of the mucous membrane is impaired, and in tubercular ischæmia the varied irritating symptoms are sometimes controlled by the use of dionin spray. I have patients who say to me, "O, that spot," and the cause is uncertain, but relief of the symptom may be secured with a 5 per cent. spray of dionin, used once every hour, and oftener if necessary.

In one case in which I have obtained results, where the pupil had been bound down by synechiæ, the proof of successs is positive, for after the pupil was dilated it was possible to see on the anterior face of the lens a faint circle of pigment spots left after the pupil had been torn from its fastenings, that shows very prettily by the use of the ophthalmoscope; and when there is good reaction of the pupil the pigment deposits may be seen with the aid of focal illumination.

Thomas M. Stewart, M. D.: Was that case recent?

Dr. Dowling: I do not know how long the condition had been present. The patient had been in a draft constantly. He noticed his eye was getting bad, and some one spoke to him about his eye being a little red,

but he did not appreciate the fact that the vision was gone until he accidentally covered up the good eye. He then discovered that the vision was gone. Pain began a few hours before I saw him, but just how long it had existed I do not know. I had every reason to believe the inflammation was rheumatic in origin, not specific.

As to hot applications and paracentesis, the latter I have never employed for this purpose. Hot applications I use a great deal, and have much confidence in them; but in studying the effects of dionin I have avoided even such adjuvants.

As to its actual sphere of usefulness, I have determined for myself that it is more useful in cases where there is some serous or plastic exudate, as in retinitis where there is severe œdema, or in cases of iritis where the pupil is bound down to the lens. In interstitial keratitis I have not had any sucess with it.

Dr. Wells has asked me to advance a theory that will reasonably explain its temporary and permanent action on vision. A plausible hypothesis is based upon the interrelation of the nose and eyes through the ramifications of fifth nerve and the circulatory system, the venous, arterial and lymphatic. There is one point I have noticed in my experiments and observations, which is, that conditions affecting the middle turbinate, the upper part of the septum and the superior turbinate, the ethmoid cells are the conditions which are most apt to be associated with some pathological affection of the fundus.

Grunwald states that in the few reported deaths following nasal surgery, they have been due to operations on the middle turbinate or upper part of the nose. One case cited was reported by Quinlan in the *N. Y. Medical Record,* for September, 1890. Those are the parts most freely supplied by motor, sensory and sympathetic fibres coming from the spheno-palatine ganglion, and which also supply the eye. My theory as to intraocular conditions benefited by the use of dionin is that there is a back flow, venous in nature, due to some disturbance of circulation from irritation within the nose. Dionin re-establishes the circulatory equilibrium and thereby relieves the ocular affection. I have not elaborated the theory, so I am not ready to present it in as satisfactory a manner as I should like.

Œdema is caused in the nose and throat in some atrophic conditions, but not to any appreciable extent; but sprayed into a nose that is approximately normal, and immediately a decided turgescence ensues, the nasal fossæ will be blocked up for several hours. You must be careful not to excite laryngeal œdema.

I am satisfied that dionin will prove of value to the nose and throat surgeon, and possibly to the aurist, but my observations along these lines are, as yet, too meagre to warrant positive conclusions, but, nevertheless, sufficient for the prophecy that a more extensive study along these lines will establish as fact the present question of dionin's virtues in treatment of the aforesaid special organs.

JOINT SESSION OF THE O., O. AND L. SOCIETY WITH THE NATIONAL SOCIETY OF ELECTRO-THERAPEUTISTS, WEDNESDAY, JUNE 22, 1904, 4:30 TO 6 P. M., AT NIAGARA FALLS, N. Y.

DR. WILLIAM R. KING, OF WASHINGTON, D. C., PRESIDING.

The chairman: Ladies and gentlemen, members of the American Ophthalmological, Otological and Laryngological Society and members of the National Society of Electro-Therapeutists. I was notified a very short time ago that I was expected to preside over this joint session, simply, I presume, because I have occupied the chair in both societies in the past, making it appear, perhaps, that under those circumstances I should be the presiding officer. As I understand the program, we are to have a paper and report of some experience with electro-therapy in ocular diseases, by Dr. Emily L. Hill, of New York City. We hope to secure as much practical discussion upon this subject as presented by this paper this afternoon, as possible; we hope it will be a general discussion upon the effect and action of electricity as variously applied in diseases pertaining to the specialty represented by the American Ophthalmological, Otological and Laryngological Society; we hope to have the experience, assistance and suggestions of those members of the National Society of Electro-Therapeutists who have more general experience with electro-therapy than as a therapeutic measure. I will call upon Dr. Hill to present her paper.

SOME EXPERIENCES WITH ELECTRO-THERAPY IN OCULAR DISEASES.

BY EMILY L. HILL, M. D., O. ET A. CHIR.,

New York.

WHEN I promised the Secretary of the Society of Electro-therapeutists that I would contribute a few cases to this conference, I expected to be one of many. You can imagine my surprise on receiving a copy of the program to see that my paper was the only one to be presented. When I consider the very short time that I have been working along this line I am amazed at my temerity in presenting any cases whatever for your consideration, especially as the subject was so ably presented last year by Dr. Wm. R. King, and was thoroughly discussed at that time.

The few cases I shall cite will be taken from the clinic of Dr. Chas. Deady, at the New York Ophthalmic Hospital, in which clinic it has been my privilege to serve as assistant for the past year. At the time the records were taken there was no thought of reporting the cases, hence some elements of value will be lacking.

Case One. Tommy, aged 12. Angioma of the lower lid. This case presented at the clinic in February, 1903. At first sight the appearance was that of a severe contusion, the lid being swollen, and of a dark purplish color. On questioning the patient he denied having received any recent injury, but later admitted having been struck by a ball the previous summer. His aunt, who accompanied him, said the growth had not been noticeable until a few weeks before, but that it was increasing in size very rapidly. Through the lid it could be felt as a soft, compressible tumor, about one inch in length and perhaps one-half inch in diameter. Negative galvanism was used in this case, giving ten milliamperes over the closed lid. At first this could be borne only about five minutes, but the time was gradually increased until the treatment lasted fifteen minutes. During the first three months treatment was given every other day, then twice a week, and finally, once each week; the frequency being decreased as improvement seemed to warrant. The only other treatment given was the internal administration of *Carbo veg.* in varying potencies. At the present time the tumor has entirely disappeared, and the patient only reports about once each month.

Case Two. Mr. ——, age 33. Neuro-retinitis, probably due to the use of tobacco. Came to clinic because he had noticed for a few weeks that

he could not see as well as formerly. On taking the vision it was O. D. $^{20}/_{40}$, O. S. $^{20}/_{20}$. No improvement from lenses. Ophthalmoscopic examination showed blurring of margin of disc with some hyperæmia. He admitted that he used tobacco to excess, and liquors in what he termed moderation. Was told he must give up tobacco and liquor, and was given *Nux vom.* IX, four times daily. Two weeks later vision was O. D. $^{20}/_{70}$, O. S. $^{20}/_{20}$. We then began the application of negative galvanism over the closed lids, current strength 8-10 milliamperes, duration of treatment fifteen minutes every other day. One week later vision O .D. $^{20}/_{30}$, O. S. $^{20}/_{20}$. Treatment continued. Two weeks later vision was O. D. $^{20}/_{30}$, O. S. $^{20}/_{20}$. All this time the internal remedy had been continued, and the prohibition against liquor and tobacco had not been raised; yet it seems to me that the electricity ought to have considerable credit for the improvement, as it did not set in until after beginning its use. As often happens with this class of cases, he discontinued treatment as soon as he considered himself better. At no time was there any apparent involvement of the left eye.

Case Three. Sara, age 14. Interstitial keratitis. This patient had interstitial keratitis over two years previous to coming to the clinic, and had been treated elsewhere, but the opacity had never fully cleared up. Although in this case the records are very imperfect, the improvement was immediate and continuous, and at present the cornea is clear, and the girl is back in school and doing her school work without inconvenience. In this case, owing to nervous sensitiveness on the part of the patient, the current strength could never be raised above five milliamperes, hence the duration of treatment was increased to from twenty to thirty minutes.

Case Four. Mrs. ——, age 40. Scleritis with sclerosing keratitis. This was an old case having had repeated relapses of varying duration. The carefully selected remedy had seemed to have but little effect on the duration or progress of the attacks. The sclerosis of the cornea was nearing the pupillary area, and there was marked ectasia nearly surrounding the cornea-scleral margin. It was decided to try the effect of positive galvanism, and eight to ten m. a. given for from ten to fifteen minutes on alternate days, and the effect was very gratifying. The progress of the disease was arrested from the start, and improvement set in and continued until there was subsidence of all acute symptoms. Considering herself well she staid away for a few weeks, when a relapse set in, and she returned, but it was quickly checked by the same treatment.

At present writing this case is still under treatment, but as she is the mother of a large family, it is a hard task to induce her to come regularly.

I will not occupy your time further, but hope the cases cited may be of some slight interest. In each case the only other method has been the indicated remedy, and one could hardly ask the loyal homœopath to discontinue that.

DISCUSSION.

The Chairman: There has been no provision made, so far as I know, by the committee of either society for any special member to open this discussion, as has been done in the case of some papers prepared for the programs of the societies separately; therefore, I declare this paper open for general discussion, and will ask for a free and general expression of opinion on this subject.

E. D. Brooks, M. D., Ann Arbor, Mich.: I see the rest are too modest to tell their experiences, but I have had one experience that is considered remarkable, with the use the galvanism, the positive current first and the negative following, in a case of iritis which had progressed for several weeks before it came to me. It came from a neighboring town, after having been under the care of an optician. The patient had been constantly changing glasses, and at that time had a vision of counting fingers at a distance of three or four feet. The optician had fitted her with glasses a few weeks before, and had given her a minus four cylinder. When she came to me the pupil was occluded and excluded. The eye ball was very much reddened and she had considerable photophobia. I tried atropine thoroughly, even to the saturated solution, without any effect at all. It produced no apparent effect, but thought I could see a little of an attempt to pull away from the capsule of the lens, by the darkened appearance of the edge of the space called hemogenesis. On account of the great irritation of the eye, I applied positive galvanism. I did not have a milampere meter on my battery, so could not measure the current. I used the dry cell battery. At the end of ten days I had the inflammation under control; so I thought I could then begin to try to absorb the deposit. I then used the negative pole over the eye and the positive in different portions of the head, and I continued that for a few weeks. The case was under my treatment for about three months altogether, and at the end of that time had a vision of $^{20}/_{30}$; the pupil was comparatively clear, and the iris was as tough as ever. She could not continue the treatment any longer, living at a considerable distance and finding it very inconvenient to come; but the result of the treatment it seems to me was rather remarkable. I am told by others that it was remarkable.

John L. Moffat, M. D.: The case of amblyopia reported is very typical of the conclusions to which I have come, and in common with others that I know of, that electricity is excellent to help medicines, and the combination of medicine and electricity is better than either alone. I used to do more with electricity than I do now. We all of us have had cases of tobacco amblyopia with such results, but I do not think we ever had any result as quickly without electricity as an adjuvant. I do not think we would have such lasting results if *Nux vomica, Strychnia* or other indicated remedy had not been given with it. Of course, the first thought in the scientific report of the case is to have no alternation, and if two or three things have been used we halt between them as to

which we shall attribute the cure; but I am satisfied we should attribute the cure, the best results to the combination.

—— Simonds, M. D.: I have had some experience with the static induced current in iritis. I have found it very effective in relieving the pain of iritis. I have had one patient under treatment who has had chronic iritis for a dozen years, and was blind in one eye and nearly so in the other. The only comfort she could get was by the application of the positive pole of the static induced current over the painful lids. She would come to my office nearly every night for that treatment, in order to get some sleep. I cannot say that it did any other permanent good, although there were periods of improvement and relapses also. Finally she went west and had an iridectomy of both eyes with some improvement, I believe.

Hills Cole, M. D.: We usually associate, in electricity, the idea "sedation" with the positive pole and "stimulation" with the negative. The last speaker spoke of using the positive pole of the static induced current. I presume we all understand what is understood by the static induced current; the Leyden jars are connected to the sliding poles of the static machine and conducting cords are led from the outside coatings of the Leyden jars to the patient. Then when we are talking about the positive pole of the static induced current we have to be careful that we use the right term for the correct electrode; because the charge induced on the outside of the Leyden jar will be the opposite to that which comes from the pole. For instance, the jar which is on the positive side of the static machine will connect the inside of that jar with the positive; but the current that goes to your patient will be the negative. The opposite change is induced in every case of induction, so that I want to mention that as a word of accuracy. If you talk about the static induced current the polarity will be just the opposite of that of the static machine.

Going away from the subject of eyes, and if we may touch upon the subject of ears, I have little technical knowledge of the diseases of the ear, but as will happen with everbody who is doing electro-therapeutics, somebody will come in occasionally and wonder what electricity will do for them; and under those circumstances I have always felt justified in trying to see what electricity would do for them. I have a patient who has been through the hands of a number of eye and ear men in Boston and Connecticut. She came to me for the first time, I think, eighteen months ago (possibly a little longer ago than that). My diagnosis was a chronic catarrhal deafness and she wanted to know what I could do. At that time I started in with the use of galvanism. I allowed the patient to lie on a couch with the particularly bad ear uppermost. I filled the canal with a warm solution, and then dipped the end of the electrode into that—properly protected,, of course—and applied the negative current, the indifferent electrode being applied to the hand or back of the neck. It had a certain good effect; there was a slight improvement but really hardly enough to warrant the patient con-

tinuing treatment, inasmuch as she had to take a twenty-mile ride to come to see me.

Then I had some experience with Dr. Monell, in Brooklyn, with a little device he used in the way of vibratory stimulation; it was nothing very technical but it virtually amounted to using the hammer of the electric bell, you might say, and that was tried a little while. He also had a little device which was of the nature of a pneumatic vibrator, and that was to take the primary charge of a faradic coil (not the secondary induced current, but the primary current) and run that into the telephone receiver; and the influence of the vibrations virtually was communicated and multiplied in this telephone receiver so that he thought he was able, in that way, to trace improvement in many cases of catarrhal deafness. I tried that and it did have considerable good effect. Then the next thing I went to work with, as the improvement was not what it might have been (I may say I was an amateur in this work and willing to try almost anything that came along) was the use of the catheter in the Eustachian tube. I obtained a very decided improvement in the patient's condition by that method, using very slight galvanic currents. Then I acquired the Piffard hyperstatic coil and thought I would clinically test that, and really the best results have come from that; and whereas I used to have to shout to my patient, she can now hear my ordinary voice, and I attribute the greatest results to the Piffard hyperstatic. I used the small vacuum tube, placing it in the external canal; and I also used it on the floor of the nares, carrying it back as far as possible toward the meatus of the Eustachian tube.

I have another patient who has had remarkable benefit in the same way. I was led to use this treatment because of my results in the other case. This was a physician. I do not know whether he is a member of your society; at any rate, he is a graduate of the New York Ophthalmic College, and does a good deal of ophthalmological, laryngological and otological work. He has to travel some twenty miles when he comes to see me, and he has been very careful in following up the treatment. When you would get on his right side he could not hear what you have to say; on the left he could make out fairly well what was being said; but at the best you had to shout pretty hard to make him hear. After a few weeks (I have forgotten the exact records) one day I was talking in that same loud tone of voice I was in the habit of using. He said: "Doctor, don't you think you are talking quite loudly? I can hear you quite plainly." From that time on I have addressed him in the ordinary tone of voice, and am particularly pleased that it should have been an expert in this type of work that I have had as a patient, because he could recognize the value of this treatment.

David A. Wells, M. D.: A form of electricity which has served many of us well is electrolysis, in cases where the lachrymal duct is occluded. Some cases have improved very nicely and have been practically cured with two or three treatments. But there is one difficulty which I have experienced along with others, and that is in properly insulating

the probe. Now perhaps some of the members of the other society will help us out along this line. We have had to depend upon shellac very largely as our means of insulation; and the probe which we want to use in a new case (we do not care to stretch the duct too much) need not be as large as the lead in a lead pencil—perhaps two-thirds the size of that. It has a small, bulbous end, and the method of applying the shellac has been to have very thin shellac and to coat all but the tip of the probe in order to get the effect at the tip of the probe; but in inserting that through the canaliculus the chellac is stripped off the probe, so the effect is not only at the point of the probe, but we are getting an effect somewhere else than where the point is desired. This difficulty a doctor in New York, has endeavored to overcome by making probes with hard rubber insulation, but in order to do this it necessitates using a probe of less size and doing something of a surgical operation. I may say I myself have become rather conservative about this canaliculus. I believe it is better to keep it intact, to save the occlusion of the punctum. I endeavored to get some of these probes made small enough to insert into the canaliculus without slitting the punctum, but have been informed that they cannot be made in that way.

I have also experimented with a material called liquid glass, hoping that might remain on the probe, but so far nothing seems to serve except the shellac, and that serves very poorly.

Is there some form of insulation which we can use on the small probe, which will stay there and get electrolysis at the end of the probe? If we can accomplish that I think we will make great progress in stricture of the lachrymal duct.

The Chairman: Is any one prepared to suggest an improvement on the method of Dr. Wells has described?

(Collodion was suggested.)

T. C. Wiggins, M. D.: I was present at the meeting of different therapeutists in New York, and a doctor there was showing some instruments that he had insulated with black sealing wax, and perhaps that would be a help in this case.

Hills Cole, M. D.: I should think the sealing wax would be as board-like as the shellac used. May we not possibly get over the fact in another way? Could we not get some rubber and dissolve it? Take a rubber solution as used for many bicycle tires. Would it not be possible to put some of that on the probe and let it dry? I am merely suggesting this. Practically I never have tried it, but it occurs to me possibly some of that rubber solution might be used to coat the probe and then let it evaporate.

J. L. Moffat, M. D.: I understand the question of Dr. Wells, and I guess they have been trying everything. They have tried incorporating different things, as some form of wax or paraffine with the shellac or with rubber. It may be until something new has been discovered that will be the line along which we must study, or something with a high melting point.

While I am on my feet, I should like to ask the members present if there are any dangers to guard against in the use of the high frequency hyperstatic electricity to the eye or to the ear, or faradic electricity? We all should be a little careful about the use around the ear of galvanic electricity also; but I am asking for information as to a limit of each—whether members present have used either high frequency or hyperstatic electricity with much success in stimulation in nervous or catarrhal deafness or in any of the forms of amaurosis, amblyopia or optic nerve atrophy. I know that electricity applied with the Piffard apparatus is of great value in eczema of the ear, and I intend the next time I have a case of real eczema of the lid, to try it there. I have seen it work in eczema of the ear and of the mouth also most satisfactorily.

By the way, for my own education, I should like to ask is there a difference between the hyperstatic and hypostatic and high frequency current; and when they speak of Piffard high frequency current, do we mean a particular current or do we mean a current made by a particular motion. I should like to be enlightened on these points.

Hills Cole, M. D.: The high frequency current is two types: the d'Arsonval current and the Tesla current. The d'Arsonval current consists in the rapid alternating current from the condenser. It can be used from an ordinary coil, such as they use for an x-ray coil on the direct current; or it can be used from the static machine; from your source of current energy you lead it into a condenser which usually takes the form of the Leyden jar, or sometimes only the glass plates insulated one into the other. From the outside of the Leyden jar is a coil of wire and your patient is attached to them by a coil of wire. That forms the d'Arsonval current. The other type of high frequency, the Tesla coil, is produced by using the alternating current, and it is very much the same as this Piffard current. It virtually amounts to the same thing. There you use not only the cylinder, but you introduce a further induction because from the outside of the Leyden jars the current goes through the wire. and outside that coil is put another one, just as in the faradic battery you have an inside coil and an outside coil—a primary coil and a secondary coil; so in the Piffard current you have these two coils, one of which, the initial coil —the primary coil if you please to call it so—is connected directly with the outside of your Leyden jars, and the other one is free and is connected to your patient.

Hyperstatic is a term used to distinguish it from the d'Arsonval coil. It is merely a matter of technical nomenclature. I do not know what we would mean by hypostatic.

J. L. Moffat, M. D.: One doctor told me the hyperstatic is what is meant by this d'Arsonval current in the vacuum tubes. The continued penetration of the tube which reduces its attenuation so that it is the light hyperstatic when it gets here.

Hills Cole, M. D.: We have to remember the electrode we use is becoming a battery virtually in our hands, a Leyden jar again.

Because the current is led to the inside of the vacuum tube either by a coating of lead, plumbago, mercury or something of that character; or else we depend upon rarified air as a conductor; but the patient does not receive that electricity, but receives the induced charge on the outside of this electrode, so you get four or five inductions before it reaches your patient, and we do not know under what conditions we are quoting these different terms. Now, for instance, there is a type of static machine that is sold (I do not wish to mention names), but it is claimed by the maker that with that machine they can produce a high frequency current. That is, without the use of the Piffard transformer or any transformer, and the manufacturer uses that as a selling point. What he means is he can show some of the same physical effects. We know that with the Piffard or true high frequency current, the inside of the vacuum electrode becomes colored in some way, violent if low, lightish green if high; and you can get somewhat similar effect if you put your electrode in connection with the sliding rod of a machine; but what you are getting in the last case is not a high frequency current, but your static induced current—you have not obtained the high frequency current. The difference particularly lies in this: that in the first case you have more or less a unipotential one which has more or less polarity. You know they say a faradic current is technically speaking an alternating current. But the alternations on one side of the line are so much more marked than on the other side that virtually there is a polarity. If you take a line as an axis and represent the vibrations by lines up and down—positive being up and negative down; and you find the vibrations on one side are not equal to those on the other side in the faradic machine; and the same probably holds true in the static produced charge. You can prove that by using a Geissler tube, or some vacuum tube in which the vacuum is low; bring that to the positive side of the static induced current and you get a certain reddish flouresscence on the negative side; on the positive you do not get that. That shows that there is some polarity, but use a Geissler tube on the true high frequency current and you get the ordinary blue effect. Does that answer your question?

John L. Moffat, M. D.: You did not speak of any dangers.

Hills Cole, M. D.: The whole thnig is so tentative at present; we are purely in an experimental field; I hardly know what to say, except watch your case and be careful. I know of no dangers that have been reported. I will, however, mention one point brought out in our meeting this morning which might be of value to you if you are going to use the high frequency current, and that is that ozone is always generated, and whenever we get oxygen about we are liable to have combustion, particularly if you are going to add to your ozone an electric spark. One of our members, also a member of your society, I believe, was going to treat a giotre by the high frequency current, and he was going to try cataphoresis by the high frequency current; that is, he painted the tumor with an alcoholic solution of iodine; then he was

going to apply on to that these high frequency sparks when a little spark fell on the alcoholic solution with the result that the whole thing burst into a flame. He rapidly clapped his hands there and put it out, but it might reasonably have developed into something quite serious. So keep your high frequency sparks away from alcoholic solutions.

A. W. Palmer, M. D.: I cannot speak of dangers, but I can of inconveniences, when using the high frequency in the ear with the ordinary vacuum tube. I had two cases of a little burn here on the ear, so I had the tube made with a little shield and then the vacuum tube could be used without danger.

The Chairman: The subject of the application of the high frequency current is one of the features that has brought out this meeting, which was suggested by the president of the Ophthalmological, Otological and Laryngological Society, and the president said a number of inquiries have come to him that we get, as far as possible, the experience of the American Ophthalmological, Otological and Laryngological Society in this field of the high frequency current, and it was thought that it might be brought out this afternoon in addition to expressions on electricity in other ways. I know many men here this afternoon have had experience both in eye and nose and throat work; and I think if they have had experience at all, even though slight, it might be of value.

C. Gurnee Fellows, M. D.: I can ask questions, and should like to ask one in regard to polarity; whether or not it makes a difference which pole we use in the high frequency current application, and whether or not it makes a difference to have our machine running one way or the other. As to the application of the positive and negative galvanic electrode, I buy every electrode I find. I have a collection of them and think they are no good.

In regard to the suggestion Dr. Cole made, of filling the external auditory canal with water and then connecting the electrode with the water, that is the most satisfactory method, but it takes too long. I do not like to bother occupying the lounge, because I want somebody else, two or three, to occupy it at the same time, sitting up of course. If anybody can give me a suggestion on applying galvanic electricity to both ears at the same time, I should like it better than the double applicators we have. Is it as good to use those and put them in both ears as to fill the canal full of water and connect with the electricity? Do we get as good results? I believe not. I believe we get best results with the other method, to fill the canals with normal salt solution and connect the electricity with it.

I have had some very good results with the galvanic positive pole in the treatment of deafness. A man, a good friend of mine, on whom I worked a good deal, returned the compliment in another way. He does not like to bother me to go through full treatment, and he has run in and taken half a dozen treatments which I have given him until he selected the thing he wants, which is negative galvanic electricity. He prefers it to catheters, vibratory massage and high frequency current,

and he gets relief from the Eustachian catheter without applicator—simply external application by means of an electrode and salt water in the ear. I have never tried it on the tongue, and do not know anything about it.

As to the indifferent pole, I have always been in doubt as to where that pole ought to go. The fact that you call it indifferent makes no difference to me. Some patients and doctors tell us, and text books tell us, we must put the indifferent pole on the spine along the cervical vertebræ; but I have found that it makes no difference whether I put it upon the spine or arm. The current goes through the body anyway. I should like to enlighten you on that.

In the case reported by Dr. Hill for angioma, I should like to know why the negative electrolysis would not have helped this as rapidly as the negative galvanic current, no matter whether it is applied two weeks, three months or six months. I have used electrolysis a good deal in these small growths with very excellent results. I am now using the high frequency current, and I should like to know if the high frequency current making the ultra-violet ray is the same as the ultra-violet ray, or is it a different thing.

Hills Cole, M. D.: Do you say an ultra violet ray?

C. Gurnee Fellows, M. D.: Yes, sir.

Hills Cole, M. D.: The ultra violet ray is not perceptible to the human eye.

C. Gurnee Fellows, M. D.: The violet ray, then, that we see.

Hills Cole, M. D.: The ultra violet ray is beyond the pale of the ordinary spectrum, and it not perceptible to the human retina. We can only demonstrate it at present by taking something that fluoresces with the ultra violet ray.

C. Gurnee Fellows, M. D.: Is the co-called vacuum tube we see in the high frequency current the violet ray?

Hills Cole, M. D.: It is a violet ray, but not an ultra violet ray.

C. Gurnee Fellows, M. D.: It has therapeutic purposes?

Hills Cole, M. D.: It has value as a color; red is a stimulating agent, while violet is a sedative ray; that is, where people are using the electric light baths, particularly in Germany and somewhat in England, they use for stimulative purposes red shields in front of their lamps, or possibly the lamps are red. Where they want sedaive effects in baths they use the violet or blue lamps. Beyond that I do not know that these colors will give us any therapeutic advantages or results.

C. Gurnee Fellows, M. D.: Another thing, after we have used our vacuum tubes with the so-called violet ray, for a long time, the rays cease to be violet, but are still seen. Are they still effective?

Hills Cole, M. D.: What is the color?

C. Gurnee Fellows, M. D.: It becomes pale.

Hils Cole, M. D.: Because you have used the vacuum that reduces it, that is, it becomes a higher vacuum, and a higher vacuum tube always has a lighter color; and you are not depending upon light for your therapeutic influence, but upon the electricity, and it will make abso-

lutely no difference so far as that point goes. You may possibly get a difference in this way. A higher vacuum tube has a little more resistance to the electricity, and you get a little different quality in the electricity. That is all. As yet we are not prepared to say which is of more advantage. It is purely in the air at present. That is one of the things that we will have to determine, the different therapeutic effects of the various degrees of vacuum.

C. Gurnee Fellows, M. D.: I have had some burns of the external ear by using the electrode without protection that Dr. Palmer spoke of, but it does not amount to anything. I have found an electrode here made with a glass protector so the electrode does not touch the ear. My patients like the high frequency current about the ears, and I think get some good results. Does it make any difference where the indifferent electrode is placed?

Hills Cole, M. D.: There is one electrode, one pole, that you want to concentrate and bring into action. For instance, if you use negative electrolysis for a purpose, you are particularly bearing upon the negative pole; you do not care what you do with the positive. Now, the only thing you have to consider in the positive is the dispersion. In a certain sense we all know that the degree of concentration of the current in galvanism will depend upon the area of the electrode, that is, the square surface of the electrode. Taking a small electrode you will get quite a marked effect; if you enlarge the size of the electrode but do not enlarge the current you get a dispersal of those rays naturally, therefore, less effect. Now, then, if you want to use your negative pole particularly in a small area or spot, you make the negative electrode as small as you can, and the other one you do not wish to convey any effect from make as large as you conveniently can. For instance, you are using a Eustachian catheter or a catheter for the lachrymal canal. That is, a small electrode to start with, the other one does not need to be larger than a hand electrode. As to where you put that it is perfectly immaterial, so far as I can see, the only difference being that the further you get them apart the greater resistance there is to be met in the body, and the more current you are using up. If that is of importance to a man who is using batteries it might possibly be so. The ordinary effect when applied to the skin of the palm is for it to run up the whole distance of the arm to the ear or eye. There is a certain amount of resistance that must be overcome. Whereas if you get them close together you have very much less resistance, and that is all the difference I can see betwen the two.

The Chairman: Are there any further remarks or discussion on this subject?

John L. Moffat, M. D.: I do not want this conference to close without the discussion of another subject, which I hope some one else will bring up, and that is laryngeal tuberculosis. Has any one treated that with the high frequency? In our hospital we had one patient who thought that was the matter with him at the time, and the patient was treated very satisfactorily. He went out and afterward died of tuber-

culosis, but there did seem to be an encouraging action upon the larynx in that one case; but does it help other forms of aphonia?

Hills Cole, M. D.: I hate to be always on my feet, but I have had no particular experience with the treatment of tuberculosis of the larynx, but I wish to bring out a point well to be borne in mind when using the high frequency current in superficial tuberculosis. It is very questionable to my mind whether your electricity is doing anything at all, but we must remember all around the electrode ozone is very considerably generated. I believe the effect is coming from the ozone generated rather than from the electricity itself. Ozone must be generated and possibly might be transmitted. I do not know that any clinical or laboratory tests have been made or whether the tubercle bacilli in culture are killed by high frequency current, but certainly they would be affected by the ozone generated.

A. W. Palmer, M. D.: I have had no experience personally in that line, but know of experiences of Dr. Dieffenbach. He has made some experiments with laryngeal tuberculosis and the high frequency vacuum tube and thought the cases were progressing very satisfactorily, indeed; that was about six weeks ago. I wish you could give us his idea regard ing the cases at the Metropolitan Hospital, which he is experimenting upon.

Hills Cole, M. D.: I think radium is a good thing to use in laryngeal tuberculosis if you can get a small tube and put it back on the throat, because it has its chief action on mucous surfaces. So long as you put it into an aluminum tube you must not get the moisture in contact with the radium.

John L. Moffat, M. D.: Is the high frequency current advisable for paralytic or catarrhal aphonia that is not tubercular?

Hills Cole, M. D.: I do not know. I have had no experience in that line at all.

William R. King, M. D.: I would state I have had a similar experience to that stated in the paper read in the O., O. and L. Society meeting last night, with the aplication of the interrupted galvanic current—not the high frequency, for I never use it, and know nothing about it as yet practically, except what I have learned here and elsewhere in literature, etc., not only in aphonia but in true paralytic aphonia; but where there is a tired, relaxed throat, and particularly in public speakers or singers where they have either been using the throat too much or under poor circumstances and surroundings, or where they have been using the voice wrongly and the adductor and tensor muscles of the vocal cords have become relaxed and do not act fully, freely and thoroughly, I have had excellent results from that alone, applying the galvanic current directly across the larynx. During the last couple of years I have used this in conjunction with a pneumatic machine on the outside over the same region; but I have had no experience with the high frequency current; but I see no reason why electricity there in any form that is of benefit in relaxed or atonic muscle structures elsewhere, should not act beneficially in laryngeal structures if we can find a proper

method of applying it. The strength varies from three or four m. a. to ten m. a. Not many will take more than eight or ten m. a. I think the average is six to eight m. a.

Hills Cole, M. D.: Dr. Deady, the other day, at the meeting of the New York County Society, told me of a case he had of tired aphonia, in which he had very decided relief from the use of one of the mechanical vibrators that are on the market at the present time—simply applying that little ball over the larynx. In the course of a few moments, comparatively, the person was able to speak as well as at almost any time, even though the patient when he first came in could only whisper. It did not last a long time, but the patient came back the next day. She was employed in a store and was under constant strain, both at home and in the store, so he was not surprised that it did come back, but he mentioned it as a means of speedy if only temporary relief.

T. C. Wiggin, M. D.: When I first began to experiment with the vacuum tubes, I had a case of laryngeal phthisis that was quite pronounced, and I used the vacuum tubes on his neck. I used two, one on either side, and I noticed in less than a week a very marked change had occurred. I had no particular knowledge of it, and I changed my treatment, using another electrode in the mouth. I thought if he had electricity anywhere it would do the business; but the patient got away from me because of return of trouble, and I always regretted I did not continue with the local treatment. Since then I have used the vacuum tubes on patients who have had simple laryngitis or probably aphonia from fatigue or strain, with satisfaction. There was one lady who used to be a singer, and because of sudden fright during which she had shrieked out to her child, which she thought had been run over, she strained her vocal cords in such a way that she had to give up her singing. I saw her a number of years afterwards, and the treatment I gave her was so satisfactory to her that she felt that if she had had a similar treatment at the time of her injury she would have been able to keep on with her work. I believe we have a very important agent in the use of this kind of vibration. I have been working with electrical vibrations, with the use of the vacuum tubes, and I think I have secured some of the same results as are attained by the mechanical vibration. It is simple and painless to the patients, and they get relief in a few minutes.

The Chairman: Is there anything further to be said upon this subject or further experiences to be related? If not, although the discussion has taken a rambling form as compared to the general subject covered in the paper, I think it is only fair to ask Dr. Hill if she has something further to say in closing the discussion.

Emily L. Hill, M. D.: In answer to Dr. Fellows, why electrolysis was not used in that case, the patient and the aunt who had the care of her both objected, as they had known of a case in which the needles had been used and the result was not remarkably good, and when they began the treatment I only had a little hope of doing very much good. We did not expect to get it by giving galvanism. We are always willing to have cases come to us that for some reason or other will refuse to have the

needles inserted and electrolysis used, and this because it might be worth while to see if we can get results in another manner. We had a case, I think, of beginning cataract, and we began the treatment of electricity in order to check, if possible, the total loss of vision. The case made very slow progress, and Dr. Deady's idea was if we treated that case with galvanism it might be serviceable for some three or four years yet; but that case, in which we thought there would be at least a slow development of the cataract, under the use of galvanism, has had preliminary iridectomy, and will have the cataract operation in about five weeks. Whether that hastened the development of the cataract or was a mistake in prognosis we do not know.

The Chairman: I think I have seen cataracts ripen a little more rapidly and anticipated following the use of electricity. This, then, will close this conference for this year. I think what has been brought out today with this meeting as an experiment may well be repeated another year, and if the officers and executive committee of the two societies can formulate a program for joint session we will have even better results than those of the experimental meeting this year, for the field of electro-therapeutics is one in which we are making such progress that we must keep abreast with it.

On motion, duly seconded, the conference adjourned.

RETROBULBAR NEURITIS.

BY EDWIN S. MUNSON, M. D.,

New York City.

Acute Retrobulbar Neuritis.

RETROBULBAR neuritis is an inflammation which begins in the orbital portion of the optic nerve, and by extension, finally appears at the papilla. Central vision is affected more than the entire field, which points to the papillo-macular bundle of fibres being the part involved. The loss may vary from a relative scotoma, or inability to distinguish colors, to a loss of form, or absolute scotoma. The neuroglia cells proliferate, and the vessels are overfilled, constituting an interstitial inflammation, which finally causes a degeneration of the axis cylinders.

The causes may be local, as erysipelas, cellulitis, periostitis, tubercular or septic inflammation. Other causes usually assigned are cold, rheumatism, gout, syphilis, diabetes, acute infectious diseases, septicæmia, alcohol, poisons, and diseases of the general nervous system.

The chief symptom is the failing vision, which is so rapid that perception may be lost in a few days. Neuralgic pain in the temples may be present before the visual disturbance. There is a deep-seated pain which is worse on moving the eyeball or on pressing it back in the orbit.

On taking the field the characteristic scotoma will be found. The ophthalmoscope shows nothing at first, but later when the trouble reaches the papilla it is pale and the vessels contracted. The pupils will be dilated and react to light feebly.

In a few weeks slow improvement may set in, and in favorable cases, recovery in a couple of months. The more unfortunate cases pass into atrophy of the nerve.

The treatment of the cause, if it can be determined, is of course, the first to be instituted. The eyes should not be used and must be protected from bright light by dark glasses.

Local blood-letting in the early stages is advised by many authors. Later, iodide of potassium, and still later, strychnine. Nux vomica is

the drug advised by homœopathic authors. The eye symptoms are meagre to prescribe on.

Darier claims splendid results in the treatment of the affection by subconjunctival injections. He used $^1/_{20}$ of a milligramme of sublimate once a week in one case. In another, after using cyanide of mercury 1 : 5000, and getting no improvement, he injected cyanide of gold and potassium 1 : 1500 with good results. In another case using cyanide of mercury 1 : 1500 the vision quickly improved. He reaches the conclusion "that the timely moment for therapeutic intervention is quite at the beginning, or when the inflammatory process begins to recede."

Chronic Retrobulbar Neuritis.—The chronic forms are those caused by toxic substances.

The most frequent cases are of the poisoning by the use of tobacco and alcohol. The claim is now made that alcohol alone will produce the trouble, but all the cases I have seen have been in those addicted to both.

Other substances producing this form are iodoform, bisulphide of carbon, methyl alcohol, nitrobenzol, lead, filix mas, Jamaica ginger, acetanilid, salicylic acid, and pomegranate root.

The pathological changes are restricted to papillo-macular fibres. The coats of the vessels are thickened, the connective tissue increased and the nerve fibres atrophied. A late view is that the change begins in a degeneration in the macular region of the retina.

The first symptom is the blur over objects looked at, and is worse in a bright light. There is a scotoma for colors at the point of fixation. The loss of color perception is green first, then red, and blue and yellow last. If any change is perceptible with the ophthalmoscope it is haziness of the disc and pallor of the temporal half.

Prognosis is good if the patient will cease the use of tobacco and alcohol, or the toxic substances are eliminated.

In the treatment, besides the stopping of the substances causing the trouble, strychnine in increasing doses will gradually restore the vision in most cases to normal. Nitroglycerine and inhalations of amyl nitrite are said to accelerate the cure, but strychnine alone has been sufficient in my hands.

DISCUSSION.

W. B. Kreider, M. D.: The novice as he views the fundus of the eye through the medium of reflex light is struck with the beauty that presents, the optic disc in perfect outline, pale reddish in color, with its

blood-vessels springing out of the confine, passing through the network of the meshes of the retina, which, being the expanse of the optic nerve, is a thing of beauty.

The physiologist understanding the structural conditions that enter herein prepares for the pathologist the foundation on which he bases his nomenclature, and the novice is awestruck at the multitudinous conditions which give rise to pathological changes. He, however, soon finds that as in the days of conquest all roads lead to Rome, and here keep in view the central figure, the disc or nerve head, to keep this fortified from the invasion of an outstanding army, namely, peripheral neuritis.

The essayist has given us the cause, course and treatment of this peripheral neuritis. Considering the causes, as stated, are numerous, and one is forced to note the paucity of remedial agencies in comparison, only comments of approval can be made as to the treatment whatever the cause. To treat the initiatory disease, whether local or constitutional, and in constitutional poisons, such as alcohol and tobacco and the drug poison, no arrest of the disease can be made unless the morale of the patient has the strength to fully enter into the sympathy of the physician's advice. As to the toxics that produce this disease, have we not a fruitful field for investigation? Why not call the attention of the provers' committee to these drugs and see if we cannot enlarge our field of remedies in this disease, and see if we cannot have the similia instead of the well-tried Nux and Strychnia, which we use almost empirically, and with which we sometimes fail, and the nerve atrophies? Possibly with reproving the toxic drugs, which cause retrobulbar neuritis with especial reference to the study of the intra-ocular eye, we might gain a few remedies to apply to the similia of the disease and save a per cent. which now go to nerve atrophy.

In addition to the essayist's therapeutics, I would mention electricity and massage in chronic intra-ocular diseases. My method of applying massage has been through the medium of the Garey Ophthalmo-oscillator combined with electricity, or without, which in my hands has kept in abeyance the progress of the disease, and in most cases have made a gain in vision, not losing sight, however, of using the indicated internal remedy.

A CASE OF RETINAL DETACHMENT THAT YIELDED IMMEDIATELY TO TREATMENT.

H. MANNING FISH, M. D.,

New Orleans.

THE retina or innermost coat of the eye is not anatomically connected to the choroid or middle coat; its only place of attachment is at the posterior part of the eye where the optic nerve passes through the two outer coats to enter the ball, and at the ora serrata, the peripheral termination of the retina; it is held in apposition to the choroid merely by the pressure within of the vitreous humor, consequently the retina occasionally becomes partially detached or separated from the choroid. A simple figure to make the above plain to any reader would be to imagine an old-fashioned round drinking goblet, into which a toy rubber balloon exactly fitted, that is completely lined it, and attached only at a point at the bottom of the glass and at the edge, and preessed against it by being filled with water; the water would represent the vitreous, the thin rubber the retina in situ, and a chance bubble of air under it would be a "detachment." Retinal detachment may be caused by injury, stretching of the other two coats, elongation of the eyeball, in high myopia, by shrinking of the vitreous following an inflammation, or by any circulatory disturbance that would cause a subretinal hæmorrhage or exudate, and so lift it up from the choroid; and it sometimes arises idiopathically. It is generally very sudden in its appearance, especially when due to subretinal hæmorrhage or exudate, the patient noticing a rapid and great loss of vision either central or in the middle field, according to the location of the lesion. The diagnosis in old cases is a comparatively easy matter, in right fresh ones, due to an exudate, it is more difficult and unless the exudate is pronounced, and concealing the choroidal and leaving still visible the retinal vessels, resort must be had to the perimeter, to determine if there are any scotoma or breaks in the visual field. As the retina is supposed to derive most of its nourishment from the choroidal vessels, a detachment, unless speedily relieved by nature or otherwise, usually results disastrously to that part of the retina immediately involved; not only is

there an interference with the nutritive processes with resultant atrophy but the exudate may soon become recognized, the connective tissue formation effectually preventing a reapposition of the detached part with a consequent functional loss.

Owing to this rapid deterioration in the retina if the condition persists, and as the cause of the detachment in a great many cases is unknown, the treatment is directed principally to the evacuation of the subretinal fluid rather than to the casual disease. The course generally recommended is confinement in bed in dorsal position with pressure bandage, sweating, iodides, purgatives, etc., this to be kept up several weeks, and, if unsuccessful, operative measures are to be used, as puncture of the two outer coats behind the fluid to draw it off and allow the retina to resume its normal position; piercing all three coats to evacute the fluid and set up an inflammation, hoping thereby that adhesions will form and hold the retina in place; injections of some fluid into the vitreous to increase the pressure within the eye, and so force the retina back into place. The authorities agree in an unfavorable prognosis and do not hope for much from any treatment; the detachment enlarges, there are recurrences, opacities appear in the vitreous, total detachment from shrinking of the vitreous with ultimate blindness is the fate of most of these cases. "The prognosis of every case of detached retina is bad, spontaneous cure being extremely rare, and the cures by any one or by any combination of the above methods being few and far between, and when the retina does return to its place there is still the danger of a recurrence of the detachment." (Swanzy.[1]) Subconjunctival injections of a normal salt solution first recommended by Lodato in 1895, are advised by Fuchs[2]; with no comments as to the results, Fox[3] says of this treatment, that it has been attended by but temporary relief, and Tarducci[4] reports an absolutely negative result in old detachments and but slight and only temporary improvement in cases that are recent, of eight to twenty-five days standing. On the whole, he says these injections are no improvement over the other treatments generally used. On the other hand, De Wecker[5] claims to have obtained the best results from this mode of treatment. In addition to this subcon-

[1]Swanzy, Diseases of the Eye.

[2]Fuchs, Lehrbuch der Augenheilkunde.

[3]Fox, Diseases of the Eye.

[4]Tarducci, XVI. Congress de la Socitet Italienne d'ophthalmologie (Florence, October, 1902), Archives d'Ophthalmologie, August, 1903.

[5]De Wecker, Annales d'oculistique, July, 1902.

junctival he advocates intraocular injections of sodium chloride in the vitreous of beef's eyes. Darier[6] reports no improvement in cases of detachment treated by the Roentgen ray. Deutschmann[7], who passes a double edged canula knife through the three coats dividing the striæ in the vitreous and liberating fluid from before and behind the retina, and follows this by injecting the vitreous from rabbits' eyes into the eye to force the retina into position, reports cures from 23 to 26 per cent. of cases so treated. At the September, 1903, meeting of the German Ophthalmological Society at Heidelberg (see Archiv fur Augenheilkunde, October number), Uhthoff described a case of bilateral retinal detachment in a nephritic patient treated by inserting a Curschmann's canula in the lower limbs, by which twenty-one liters of exudate fluid were drawn off in the course of a few days. In a month or two reapposition of the retina took place witht but partial restoration of function, owing to the formation of connective tissue bands and pigment spots in the subretinal exudate, as demonstrated by the microscope. His results showed only 8 per cent. of permanent reattachment in about four hundred cases of detached retina, and as he used the above pathological findings to explain the ophthalmoscopic changes or appearances in the fundi of these reattached cases, we must infer that the function was not completely restored even in this small percentage of cured cases.

Case One. In July, 1903, a lady, 38 years old, came to me complaining of asthenopia. She was wearing .75 Ds constant, with which her vision was normal (better than 15/xv), each eye. I did not change her constant glass, but prescribed 1.25 Ds for near work, which relieved her symptoms. On March 2, 1904, her husband, a physician, told me that during the night his wife had had a very severe pain in her left eye, that there was a marked loss of vision, etc., and he thought it was an attack of glaucoma. She had had many similar attacks in the last few years, though none had been so severe, and her vision had never before been affected. There had been pain and redness, and one oculist had told her the trouble was due to malaria, and a second said she needed her glasses changed, but a little later, after the acute attack had subsided, he told her the glasses did not need changing. The next day, March 3d, she called at my office. She was still suffering with pain in her left eye and in the orbital bones; the pain, however, in the ball itself was not so severe as it had been two nights before, when it was very intense, enough to awaken her during the night. There was no increase of tension; the cornea was not "steamy;" the pupils were alike in size ,though

[6]Darier, Medicinisch-Chirurgisches Central Blatt, Oct. 9, 1903.

[7]Deutschmann, Archiv.fur Augenheilkunde XLVIII. Band. Viertes Heft.

the left was somewhat sluggish; vision greatly reduced, at fifteen feet on an illuminated test card she could read (with glass) the top letter (C). and only one on the second line (C), hence her vision equaled 15/C L, or only $^{1}/_{10}$ the normal; plus and minus glasses placed before her .75 Ds did not improve her vision; the near point could not be taken as she could get but glimpses of large type (3D) at 45. 50 cm., reading it was out of the question. After instilling homatropine I found all the media clear and the fundus normal save in the lower half, beginning just below the macular region and extending well forward, there was a grayish slate colored exudate, not sharply outlined but gradually fading away at its border into the normal red color of the fundus. In front and extending across the grayish mass the retinal vessels were plainly visible, they were very distinct with a 3.50 D. 4. D lens in my ophthalmoscope, the choroidal vessles, however, were entirely concealed by it though visible at the sides and in front of it (anteriorly, toward the periphery), plainly, an exudate between the retina and choroid. I did not take the visual field, not considering it necessary to do so for diagnostic purposes, the grayish mass concealing the choroidal vessels and lifting up the retinal vessels, and the latter being very distinct with a plus 4. D. in my ophthalmoscope determined the diagnosis beyond question. Right eye normal (vision, near point, fundus, etc.). The eye excursions were normal, no œdema of the lids of orbital tissues either side. There was some tenderness to tapping over and pressure under the left frontal sinus, and the left middle turbinate was swollen. There was no nasal secretion. I told the doctor my diagnosis was a serous exudate between the retina and choroid; in other words, a retinal detachment, caused by an inflammation of the left frontal sinus. As I had cases of inflammation of the frontal sinus with resultant œdema elsewhere (in the lids and surrounding soft tissues, many cases; subconjunctival or a conjunctivitis, several cases, and in the orbital tissues, one case of cellulitis with exophthalmus), and as I had not failed to quickly and completely relieve them by simply draining the cavity, I did not put this patient in bed with a pressure bandage and resort to sweating, medicines, subconjunctival injections, etc., but I anæsthetized the middle meatus and probed the frontal sinus. The following day there was no change in symptoms (vision, pain, exudate, etc.), so after probing the sinus I inserted a fine silver canula and injected some water into it. The next day the patient reported a complete relief from all pain in the eye and orbital bones, and her vision was nearly $^{18}/_{20}$. There was considerable yellowish nasal discharge, left side, for past twenty-four hours, and examination showed it came from the fissura semilunaris, the lower terminus of the fronto-nasal duct. Three days later she called again. The conjunctiva had entirely cleared up, the pupil reacted promptly, the fundus reflex had its normal color throughout, the grayish exudate was entirely absorbed, the choroidal vessels which had been entirely hidden by the exudate were visible, her vision was better than $^{18}/_{15}$, and her accommodation range normal. A complete restoration of all the eye functions. This patient received absolutely no medi-

cine, her eyes were not treated; in fact, nothing was done other than probing and syringing the frontal sinus, which relieved the cause of the pathological changes in the eye. Her vision to date, now three months, is perfect, but she complained on one or two occasions of accommodative failure, and, of course, the enlarged unhealthy turbinate may become congested and again occlude the fronto-nasal duct and so cause another severe attack. On that account I would advise its removal.

The theory that best accounts for the œdema in any part about the orbit, as well as the remaining ocular symptomatology of an inflammation of the accessory sinuses. I consider to be that given by Ziem[8]; *i. e.*, a passive orbital hyperæmia, which hypothesis is well sustained anatomically by Gurwitsch's[9] demonstration; that a great part of the venous blood of the mucous membrane of the nose and of the pneumatic cavities about the orbit flows through the vasa supraorbitalia, frontalia, ethmoidalia and ophthalmo-facialia into the vena ophthalmica. Apropos of this Kuhnt[10] says: "The orbit being nearly surrounded by the nasal and pneumatic cavities, a congestion or hyperæmia of all or but a part of the mucous membrane lining the cavities makes an engorgement or passive hyperæmia of the parts drained by the vena ophthalmia not only possible but probable," nevertheless, he does not accept this theory of a venous stasis, but attributes the various phenomena of sinusitis to an absorption of poisonous or infectious matter from the cavity. The only case of detached retina in connection with accessory sinus disease that I can find is one described by Kuhnt of unilateral frontal sinusitis with uveitis, opacities (fixed) in the vitreous, retinal detachment and a great loss of vision, same side in a syphilitic patient. After the subsidence of the stormy symptoms (of sinusitis) the opacities and detachment persisted with nearly total blindness, vision equaled fingers counted at one meter distance in lower half only of the visual field, which condition, on account of the detachment, is necessarily permanent. Although the vision was previously good, and, in fact, better than that of the other eye and the nearly total loss was sudden and followed immediately upon the acute attack of sinusitis (frontal pain, œdema of

[8]Ziem, Uber Einschrankung des Gesichtsfeldes bei Erkrankungen der Nase unidhrer Nebenhohlen. Berlin klin. Wochenschrift, 1888, Nr. 37, und Deutsch med. Wochenschrift, 1889, Nr. 5.

[9]Gurwitsch, Uber die Anastomosen zwischen den Gesichts und Orbitalvenen v. Archiv. XXIX, 4.

[10]Kuhnt, Uber die Entzundlichen Erkrankungen der Stirenhohlen und ihre Folgerzustande.

upper lid, ptosis, etc.), still he looked upon the acute sinus attack only as a possible causal factor, considering rather the uveitis, detachment, etc., to be the result of the transference to the anterior part of the uveal tract of infected matter, "schadlichen Agens" from the sinus, rejecting the theory of a venous stasis even in this case where a local circulatory disturbance was evidenced by œdema in the lids and a subretinal exudate, and this subretinal exudate must be considered the sole explanation and cause of the sudden nearly total loss of vision.

This "orbital hyperæmia or engorgement" may manifest itself in different places; in the lids and adjacent soft tissues, frequent; behind the globe, cellulitis with possible exophthalmus and eventual orbital phlegmon; under the conjunctiva; in the iris, sluggish pupil, often noted; in the ciliary body producing (1) an interference with its trophic function, cloudiness and opacities in the vitreous, cataract, and (2) an affection of the accommodation, this last symptom being the most frequent of all and almost pathognomic of this trouble; in fact, I have diagnosed several cases of sinusitis where no other symptom, save the consequent asthenopia or "neuralgia," was present. Ciliary engorgement and choroidal œdema also could eventually terminate in a uveitis, hyalitis and disease of the vitreous, as well as a retinal detachment.

Case Two. One case similar to Kuhnt's, of decemetitis, cyclitis, choroiditis with serous infiltration in the choroid, striæ and fine fixed opacities in the vitreous with gradual but marked loss of vision due to an inflammation of the frontal sinus. (Relief from frontal pain, pain in globe, photophobia, etc., by syringing a muco-purulent secretion from sinus after I removed the anterior end of middle turbinate.) This sinusitis followed an attack of the grip, a very frequent cause of the disease. The hyperæmia or engorgement could also manifest itself within the optic sheath, causing a papillitis (nearly always present, Kuhnt), or a retrobulbar neuritis, and, if persistent, optic atrophy. That this serious and often disastrous complaint, retrobulbar neuritis, is frequently the result of an unrecognized affection of an accessory sinus, I think there can be no doubt when we remember the pathology, an inter-vaginal exudate, and the history of a typical case, *i. e.*, generally unilateral, sudden in onset, the most frequent cause a cold, and frequently accompanied by headache, and I often find after a careful differentiation that the "headache" of the patient is nothing more or less than a frontal pain indicative of a sinusitis. "How easy it is, in fact, to mistake the pain accompanying the inflammation (of the frontal sinus) for an ordinary headache."—Celliez.[11]

From the cases I have seen and the results I have had, I conclude,

first, that many obscure cases of ocular trouble where the cause was unascertainable, or credited to a "cold," or the infectious diseases (grippe, measles, whooping cough, and any disease accompanied by coryza), were the results of an inflammation of an accessory sinus; particularly so where such pathological conditions existed as could be produced by a local circulatory disturbance; and second, that if this casual disease is recognized early and treated properly many an eye could be saved whose vision would otherwise be either partially or completely lost. Furthermore, lest it be said in contra, that cases of retrobulbar neuritis, or other eye disease, have been repeatedly subjected to a nasal examination by good rhinologists, and no evidence of a sinus involvement discovered, the finding being negative, let me add and emphasize the fact, that I have had several cases, some reported, where there was no nasal discharge, and the nasal examination was absolutely negative, save for a slight hyperæmia, and these cases were not suspected or "probable cases" of a sinusitis but ones in which I relieved the eye symptoms by simply draining the sinus. In the above case of detached retina the nasal examination showed nothing abnormal with the exception of the enlarged hyperæmic middle turbinate.

---

[11]Celliez, Observation sur un abces le sinus frontal, etc., Journal de Medicine, Chirurgie, etc., Tome XI.

TWO CASES OF IMMATURE CATARACT TREATED BY MASSAGE.

BY H. S. WILLARD, M. D.,

Paterson, N. J.

IN presenting this report, I do not wish to convey the idea that any new method of treatment is to be brought out, nor that, from the success of my efforts with these two cases, I am an extremist upon this special line of treatment, but I do hope that the paper will spur others on in their investigations and lead to more certainty in results and to more assurance as to just what cases are and are not applicable to this mode of relief.

Personally, when I first took up massage for the relief of immature cataract I was very skeptical as to its power to do anything except to make the patient feel that he was getting something for his trouble, but the result of my first case was so gratifying that I am now quite a convert to the system. I do not, however, exclude other well known methods in my cases, but try to use each in its proper place and to get the maximum effects. Electricity or galvanism, to be more exact, is, I believe, a very useful adjunct, and the proper lens is invariably my first step. Nor do I leave out the homœopathic remedy, and I try to get as near the similimum as possible and stick to it throughout.

Case One. My first case was a gentleman of seventy-three, a retired newspaper editor, health good, and a history of gradually failing vision for about two years, due, he had been told, to senile cataract. He had been to two prominent oculists in New York, and was told that nothing could be done except to wait patiently for the operative period to arrive. He was at that time writing a biographical sketch of a deceased statesman with whom he had been closely connected in public life, and had been using his eyes for eight hours a day or more, until they had practically given out for close work. His plea to me was to do something by which he could use his vision for this work for at least one year more, and then he would have completed his book.

Upon examination I found a well marked cortical haziness in the lens of the right eye, through which, with difficulty, could be distinguished an apparently healthy retina. Vision was limited to $^{10}/_{200}$ which improved to $^{15}/_{100}$, with the refraction corrected, and the ability to read

No. 5 Jaeger type, here and there a word, with the presbyopic correction.

The left eye presented an immature cataract more of the cart-wheel variety, with well marked striæ extending into the centre from periphery.

Offering the patient nothing other than experimentation, I commenced treatment with massage of both eyes, following each time by the application of galvanism. At the urgent request of the patient I also used Succus cineraria twice daily. *Causticum* 2x was given three times a day throughout.

At the end of three months the vision had improved to $^{15}/_{50}$, this of the right eye, and with correction to $^{15}/_{40}$, while that of the left had improved to $^{15}/_{40}$, and with correction to $^{15}/_{30}$. At this point I stopped the Cineraria, as it was causing some irritation and annoyance. The other treatment was continued for six months more, when the vision had reached $^{15}/_{30}$ in the right eye and $^{15}/_{20}$ in the left.

At this time the general haziness of the right lens had practically disappeared, while the striæ present in the right eye were finer, more sharply defined, and the slight diffuse haziness had disappeared. Treatment was interrupted then for four months during the summer, and upon examination in the fall, no change had taken place, and the vision remained the same. During the year following, nothing was done except an occasional treatment of massage for headache or fatigue or the like, and now, over a year since my treatment ceased, the vision is still the same, and there is absolutely no signs of any increase of opacity in either lens.

Comparing the tests before treatment with the final result, we have the following:

Before.—O. D. $^{10}/_{200}$ plus 1.75 Ds ⊃ plus .75 Dc axis 180 $^{15}/_{100}$.
O. S. $^{15}/_{200}$ plus 1.50 Ds $^{15}/_{70}$.

After.—O. D. $^{15}/_{40}$ plus 1.50 Ds $^{15}/_{30}$.
O. S. $^{15}/_{30}$ plus 1.25 Ds $^{15}/_{20}$.

My method is as follows: With a glass eye cup, hollow stemmed, I use the interrupted suction as produced by the Wappler apparatus for about three minutes over each eye, which acts upon the ball as a whole, drawing the entire globe forward in the orbit, and as the suction remits, allowing the globe to recede by its own elasticity. This is followed by using a smaller cup about one-half inch in diameter and with the alternate suction and pressure going over the anterior surface of the globe through the closed lids as far back as the margin of the orbit will permit. This I continue for about the same time, and then as oftentimes the eye feels bruised and tender from the massage, I apply galvanism (a weak current) for a few moments, which seems to do wonders in clearing up the fatigue experienced.

This routine I continued throughout the nine months of treatment, twice a week. During all this time my patient, a man over seventy years of age, engaged in writing a book, which required the most careful research and reading to prepare, and was using his eyes from eight to twelve hours a day in this most trying occupation. During the

early months of treatment this was accomplished by the aid of a French reading glass.

Case Two. The second case I wish to report is that of lady, seventy-five years of age, general health good, with a history of failing vision for a few months past. Examination showed a well marked striated opacity of the right lens allowing a vision of $^{10}/_{200}$, which a correction of the refraction improved to $^{15}/_{50}$ plus. The left eye presented a few peripheral striæ and a general diffuse cortical haziness of the lens, giving a vision of $^{15}/_{200}$, which improve under correction to $^{15}/_{50}$. She had been using some solution, presumably Cineraria, for several months upon the advice of an oculist whom she had consulted.

The same line of treatment was followed out in this case as in the first, except as I could not see the lady as frequently as I desired, I advised the daily use of a Delstanche masseur, which was carried out faithfully and regularly between her visits to me. *Causticum* 2x was given internally, but no local remedies. At the end of six months examination revealed considerable improvement in the right eye, the vision being $^{15}/_{100}$, and with refraction corrected $^{15}/_{30}$. Left eye remained the same. Three months later when treatment was stopped vision equalled:

O. D. $^{15}/_{70}$ plus 1.50 Ds ⊃ plus 1.25 axis $^{15}/_{15}$.

O. S. $^{15}/_{200}$ plus 2.50 $^{15}/_{50}$ plus.

Showing marked improvement in the right eye, which has been maintained to date, but none whatever in the left eye.

I have a number of cases under treatment at present, but sufficient time has not elapsed since beginning to allow of any authoritative report.

My experience has been that the general central cortical cataract is affected but little by this treatment, while the striated variety offers a good field for ultimate success.

DISCUSSION.

E. J. Bissell, M. D.: No branch of ophthalmology has received so little attention as the non-surgical treatment of immature cataracts. The oculists have given up too easily and accepted as final the old dictum that very little if anything could be done. After several years of carefully watching the results of treatment I can say, One thing I know, that a large amount of evidence like unto what the author of the paper has presented can be produced to show that in properly selected cases progressive opacity of the lens can be arrested and ofttimes the vision improved.

The doctor's plan of treatment is good, but it is not all that may be employed to advantage. We must not fix our attention exclusively upon the eye, but examine thoroughly into the general condition of the pa-

tient. I often find it necessary to order the drinking of plenty of soft water, the discontinuance of tea and coffee, and the moderate use of meat, salt and sweets.

My confidence in the value of the dot exercise for these cases has increased since I presented the idea to this Society two years ago. That such exercise favors nutritive changes within the lens is an established fact.

Naphthalin and *Secale* are the only drugs of our Materia Medica which so far, as I know, will produce opacity of the lens, and, therefore, their use homœopathically has a scientific basis.

Lastly, I would still advocate the steaming of the eyes before giving the massage and electricity. Latterly, I have been replacing galvanism with the high frequency current.

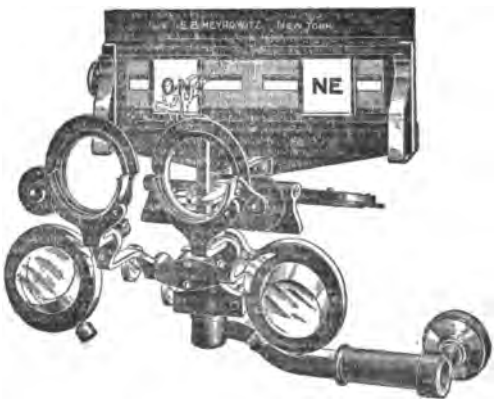
To the skeptical I would say investigate and your skepticism will soon give place to hope, and finally to a firm conviction that much can be accomplished for many cases of immature cataract.

THE THERAPEUTIC VALUE OF TRAINING THE FUSION FACULTY.

BY DAVID W. WELLS, M. D.

TWO years ago I presented to the Society a paper on the stereoscope in heterophoria and incipient strabismus. The instrument then exhibited is still in constant use, and further experience has fully confirmed the views then expressed.

FIG. 1.



PHORO-OPTOMETER STEREOSCOPE.

The only stereoscopic charts which have come to my notice are those of Javal, Dahlfield, Kroll, and Hale. Many of these are practically duplicates, but no one set is sufficient alone. For a long time I have been using a set made up of a selection from all four, arranged in eight series, viz.: A, B, C, D, E, F, G, H, somewhat after the maner of the Hale set. Meyrowitz has published this selected set, which will, I believe, meet all requirements for fusion training from the most elementary to the most advanced.

Series A consists of discrete pictures arranged in pairs. This is important because it is necessary to put before the non-used eye a more conspicuous picture than that before the fixing eye.

Series B is devoted entirely to measuring the fusion heterophoria. This often differs materially from that shown by the phorometer or the

cover test of Graefe. One who regards heterophoria as a question wholly of muscle balance will logically use the method which excludes one eye from the field of binocular fusion. Savage claims to have secured the result by placing the displacing prism and the rotary prism before the same eye. (This can be done very conveniently with the phoro-optometer, Fig. 1.) He says (Myology, p. 68): "In testing for adduction with the monocular phorometer, the only muscle to respond is the one internal rectus." He seems to have wholly ignored the tendency to verticalize and horizontalize not only similar dots but even the dot and line. The fusion faculty is always in evidence when both eyes are seeing and the attempt may be made even though it is beyond the posibility of accomplishment. The number of dot over which the arrow is seen with B 2 shows the easiest fusion distance, in other words, the natural phoria with no deflecting prism.

Series C is made up of concrete pictures, that is, both pictures have something in common.

Series D is devoted to the cultivation of perspective.

Series E is a set of smaller concrete pictures on one card. It follows series D, because many patients, who can fuse large concrete pictures and have a clear conception of perspective, will be found to suppress one eye with small test objects.

Series F furnishes a means of both diagnosis and training if suppression exists.

Series G Fig. 2, is a modification of Javal's series L. Its principal value will be found in cultivating a refinement of the fusion faculty. The translation into English will greatly increase its usefulness. A reduction of the area of the text was also imperative for use with the phoro-optometer stereoscope on account of the reduced field which the two Cretes prisms necessitate.

Series H is intended to cultivate either ab or adduction as the case requires. The other charts except A and B are 60 mm. between centers. My own contribution, aside from the selection, is two cards of series C. C 9, Fig. 3, is the result of considerable experimenting to discover the strongest anchor for duction, and I use this in all routine training.

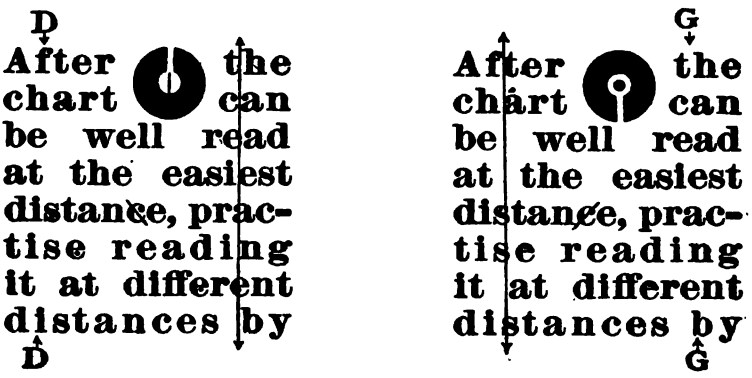
So important is the psychic element that a patient who had several times held this fused with strong prisms, will often involuntary converge excessively when this card is slipped into the stereoscope.

Javal's sugestion of "control reading" is wonderfully efficient in fusion training. It consists in holding some object like a pencil mid-

way between the face and the book. If both eyes are used the fields overlap and the type is seen behind the pencil.

Javal's apparatus (Strabisme, p. 101) consists of a frame like a Holmes stereoscope with the reading matter placed in the clips. An opaque strip is placed vertically in the median line. In order that the patient may use the eyes for near work requiring both hands, like sewing and writing, and still maintain the control, I have devised an at-

FIG. 2.

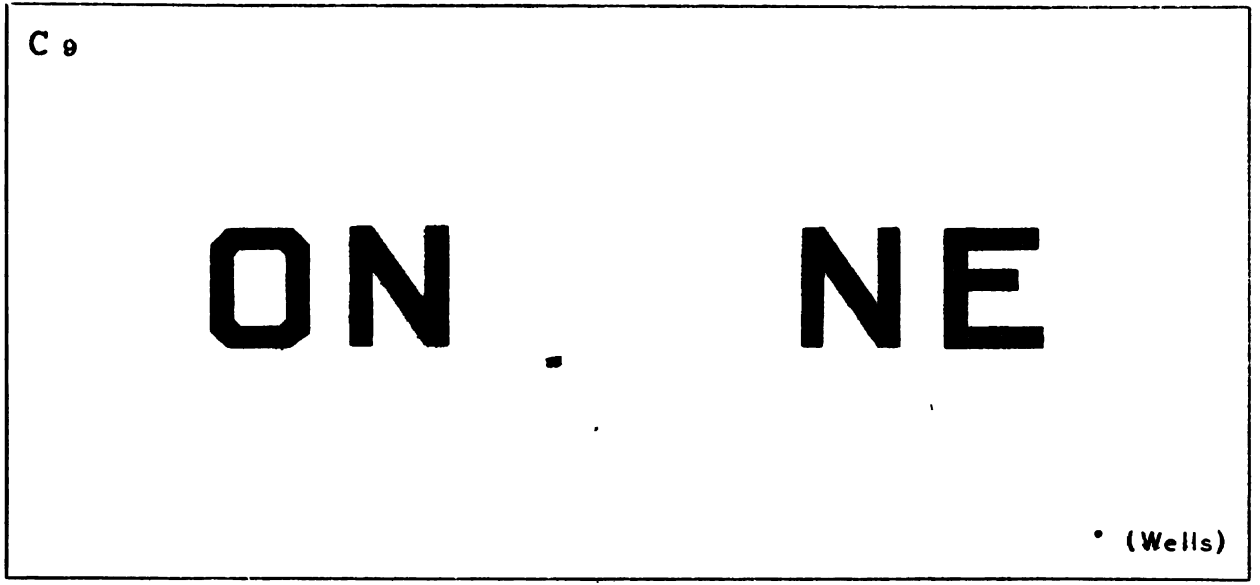


SAMPLE OF SERIES G.

tachment which is fastened to a headband in place of an ordinary mirror. Fig. 4. This alone is sufficient to cure many cases of divergent strabismus where fixation and vision are fairly normal.

As stated in my previous paper occasional convergent strabismus is amenable to fusion training. I am well aware that many of these may be cured by glasses alone, but the cultivation of the sight of the amblyopic eye and the development of a good fusion faculty will insure success in every case. Exophoria and insufficiency of convergence are generally amenable to stereoscopic exercises. Since my last report to the Society more than 200 such cases have been treated by the methods then described. I intended to give a careful report of results, both successes and failures, but I have not had time to arrange and classify them. In lieu of this I will repeat a report of 39 consecutive cases made to our Massachusetts State Society, October, 1902, as it seems fair to assume that the proportion would not vary much in a larger number. In twenty-four of

FIG. 3.



The N N are printed in red. Fusion gives the word ONE. Any tendency of the letters to separate offends one's sense of propriety and he strives to overcome it.

these adduction was increased to over forty prism dioptres (some as high as ninety prism dioptres), and complete relief of symptoms followed. Six cases made just as good progress in training, but symptoms persisted. Six cases attained twenty to thirty prism dioptres adduction, with partial relief of symptoms. In three I was unable to get any muscle improvement worth mentioning. Of the three failures recorded one

FIG. 4.

DEVICE FOR CONTROL READING.

gave a history of diphtheria one and a half years previous, since which she had never been strong. One had such weak external muscles that it seemed wise to desist, and one is wearing with comfort prisms for near use.

Of the six in whom a high degree of convergence was attained but no relief of symptoms, three are neurasthenic; one, in the words of her

physician, is in a "state of general physical debility." One is cured by a change of residence to California, and one is, I think, hysterical; knew that nothing would cure her, the complaint now being a "quivering of the atmosphere."

The three neurasthenic cases had periods of relief and relapse. I endeavored to guard against over-taxing them, and invariably stopped the treatment short of fatigue. In all of these *failures* the accommodation was relaxed with scopolamine or atropine, and glasses correcting the refractive error were worn constantly.

It is difficult to decide in a case of neurasthenia whether the insufficiency should be regarded as a result or a cause. And if a cause (or one of the causes), careful experimenting seems to be the only way to determine if the training will be beneficial. The average number of treatments given to the successful cases was eleven.

As a rule, younger patients gain more rapidly, but the results with people forty to fifty years old have been very satisfactory. Sixty years of age does not contra-indicate the treatment if general health is good.

In esophoria I find so frequently a suppression of one eye, often with an insufficiency of convergence, that the re-establishment of the fusion faculty often suffices. In not more than a dozen cases has it seemed necessary to cultivate the power of the externi. Some hyperphoria is frequently associated with exophoria, and often disappears with the cure of the latter. If not, I confess that I usually correct with a prism if the patient wears glasses. This is not because it cannot be cured by training, but the result of a prism is so satisfactory that it has not seemed necessary to employ a more laborious method.

Frequently the interrupted galvanic current or the Faradic is applied directly to the conjunctiva through a cotton covered electrode. The eye turned as strongly as possible and application made over the insertion of the weak muscle. One to two m. a. of galvanic, and as much Faradic as the patient will stand, is my rule. Pneumo-massage is used after all treatments. I am uncertain how much value to attach to the two agents.

I have heretofore refrained from expressing an opinion of the value of non-operative treatment of constant convergent strabismus from lack of sufficient experience. Mr. Worth's amblyoscope I obtained from London, as well as his original communications to the *Lancet*.

His presentation of the subject of "Squint" with the careful details of his treatment and results can hardly fail to convince one of the truth of his position.

Dr. Nelson M. Black, of Milwaukee, reported last June to the American Medical Association "seventeen cases under treatment, all making progress, with five completely cured and maintaining binocular single vision without any discomfort."

He writes me under date, April 2, 1904: "I am glad to report no decrease in our enthusiasm over the Worth method." In April I called on Dr. H. Maxwell Langdon, of Philadelphia. He studied under Worth, and is quite as enthusiastic as Dr. Black.

The opinions of these men are quoted because even now I have not been able to follow up the treatment in but one case, which was seen under five years of age. The frequently repeated advice of ophthalmologists of international fame to wait 'till the child was 8 to 10 years old is now being echoed by the general practitioners, so that the normal time for developing a good fusion faculty is passed before the case is seen by an oculist. I do not mean that I have seen only one under 5 years. Several have been seen with whom treatment has been commenced, but the parents could not be made to see the importance of continuance.

It has been my misfortune to find two cases which were evidently congenitally lacking in fusion faculty. The strabismus was extreme, very little, if any, refractive error under atropine. Vision good by Worth's marble test. The slightest preponderance of cycloplegia in either eye would cause it to squint. This Worth characterizes as true alternating strabismus, and recommends maintaining vision in each eye to prevent amblyopia exanopsia with advancement, when it can be done under a local anæsthetic.

One case six years old had a high degree of nystagmus complicating the marked amblyopia. I saw the child only a few times. There was no improvement in the squint. The treatment of one of these cases is a matter not of months but of years. Any detailed description of the method would simply be a repetition of Worth's ideas, with which I assume you are familiar, so I will briefly summarize the one case I have to report.

Case 5,202 first seen July, 1903, age three years, ten months. Right convergent strabismus 20° perimeter; condition has existed more than a year. By the marble test vision of right was somewhat reduced. Atrophine did not change strabismus, but showed hypermetropia O. U. plus 6.00 by skiascopy. Ordered O. U. plus 5.00 and atropine continued in left eye *only*. August 8th, R. C. S. 15°, ordered atropia L only about half the time.

August 15th R. C. S. 10°, ordered atropia L only about half the time.

September 9th, R. C. S. 10°, vision of right as good as left. With amblyoscope can put bird in cage.

September 23d, R. C. S. 10°. With amblyoscope fusion with some amplitude. Ordered atropine left only half the time.

1904, February 11th, R. S. C. 8°, ordered atropine *left only every* day.

May 2d, can fuse concrete pictures with phoro-optometer stereoscope with O. U. plus 10 with 30$^{\Delta}$, and hold fused while prismatic element is reduced. Evidently a successful outcome is assured. Straight most of the time, occasional R. C. S. variable, not over 5°. With young children it is sometimes difficult to be certain that the pictures of the amblyoscope are perfectly fused. The normal child is a creature of imagination, and makes little discrimination between fact and fancy. Unlimited patience is required. Black's modificaton of the amblyoscope, by whch it may be adjusted to meet a vertical deviating tendency, is certainly a great improvement. To overcome this with the original model it has been necessary to put a prism in the clip. The strength needed can be determined only by repeated trials, and this is at best a clumsy proceedure. Moreover, it is, like the lateral deviation, a variable quantity; interfering with fusion one minute, and ignored or vanishing the next minute. If it were possible it would be a great advantage to watch the eyes during the exercise. For this reason I transfer the patient to the phoro-optometer stereoscope, just as soon as he can fuse with 60$^{\Delta}$ base out.

Mr. Worth insists upon the importance of having some simple objective means of measuring the deviation as the treatment progresses. For this purpose he has given us the deviometer.

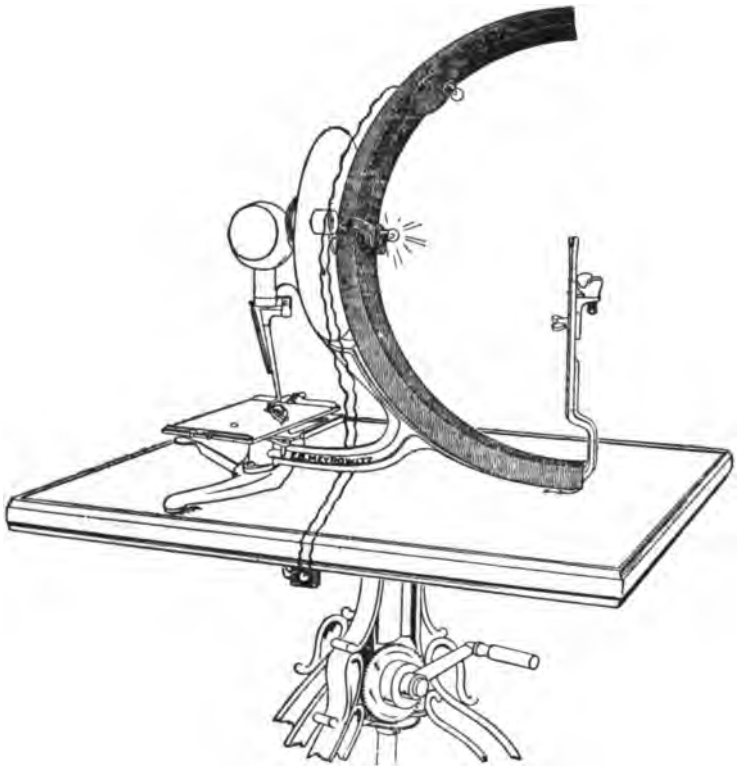
Lewis's description of transilluminated mires for the perimeter* suggested to me a very simple deviometer attachment to the perimeter. Fig. 5.

It consists of a miniature lamp (electric) at the fixation point, and another on the movable arm. The child's face is held up in position and the current turned on. This may be from wall plate or small dry battery. The central lamp burns and naturally attracts the child's attention. The reflection is seen in the centre of the pupil of the fixing eye and decentred in the squinting eye. Underneath the table is a

**Ophthalmic Record,* March, 1903.

button switch. Pressing this, lights the movable lamp and extinguishes the central one. The position of the reflection is noted in the squinting eye before the child has time to look away from the center. A few trials suffice to obtain a central reflex and the angle of the deviation is read off on the perimeter. In case the angle gamma is sufficient to demand its consideration, it can easily be obtained in the same way for

FIG. 5.



DEVIOMETER ATTACHMENT TO PERIMETER.

each eye, the other being covered. Evidently if the patient is old enough to be trusted to continue fixing the center, a candle carried along the arc will suffice, but it is well-nigh impossible to keep a young child fixing a spot when anything as interesting as a lighted candle is moving about.

Landolt and Javal have called attention to the importance of post-

operative training. This is imperative if one expects to establish a normal binocular use of the eyes. Little can be accomplished by non-operative treatment of a long established convergent squint if the patient is over eight years old.

These cases require advancement of one or both external recti, and sometimes a tenotomy of an internus, though this should be reserved as a last resort. The reason for this is well shown by Landolt,* and is not pertinent to the present subject. The result should be a perfect cosmetic effect, but it would be too much of any operative proceedure to expect orthophoria. I have learned to think it a good omen if the patient complains of diplopia at first. It proves that the suppression has been overcome. Fusion training should begin almost as soon as the bandages are removed. At first this may be limited to crippling the previously straight eye either by atropine or a cover. This compels the use of the previously esotropic eye, assisting it to regain a normal orientation. The existence of a vicarious macula, of course, complicates the treatment. Here each case is a law unto itself. In two weeks, office treatments will be required, with home use of the stereoscope, amblyoscope or control reading.

The potency of this method is illustrated by the following case, of which the salient features only are given: No. 5,300, age 22 years, consulted October 8, 1903, with history of strabismus since childhood.

Left convergent strabismus 20° perimeter.

Under atropine refraction was—

$$R + 3.75 \supset 1.00 \text{ c } 100^\circ \text{ V} = 1.$$

$$L. + 4.50 \supset + 1.50 \text{ c } 75^\circ \text{ V} = .6.$$

Ordered for constant use—

$$R + 3.00 \supset + 1.00 \text{ c } 100^\circ.$$

$$L + 3.75 \supset + 1.50 \text{ c } 75^\circ.$$

December 14th, strabismus 16° perimeter.

December 23d, no change.

January 3, 1904, advanced external rectus, left eye, by Worth's method, making slight over-correction.

January 15th, perfect cosmetic result. Patient complains of diplopia, especially noticeable on looking to the right.

Abduction, right eye nearly nil (duction was not limited before operation), continued atropine in right.

---

*Norris and Oliver System of Eye Diseases.

January 30th, abduction, right eye improved, but still limited.

Phorometer showed esoporia 15^{Δ} D, 7^{Δ} near.

Stereoscope O U plus 10, with Pr 73^{Δ} base out, can fuse large concrete pictures, series C.

February 25th can fuse same pictures with Holmes's stereoscope, but apt to entirely suppress one eye. Esophoria same; normal abduction right. Diplopia only once in a while, order home use of stereoscope.

March 22d appreciates perspective with prisms arranged for easiest fusion, continue home use of stereoscope.

April 27th, hardly ever troubled with diplopia. Esophoria 10^{Δ} Dist., orthophoria near. Control reading difficult but possible. Ordered use of control device for all near work, and continue home use of stereoscope. Vision, left eye, equals .7. (Improvement of .1.)

In conclusion, I realize there is a danger of becoming over-enthusiastic about one line of treatment. In speaking of the treatment of exophoria reference was made to a certain per cent. of failures. I presume I have my share in all forms of heterophoria. I find it in many cases very difficult to decide whether or no the heterophoria is responsible for the symptoms. As binocular vision is something we learn by experience, it is evident that many abnormal methods of fusing will be developed. These may depart very widely from the average standard and yet be more comfortable to the patient than a condition of orthophoria.

Yet I am constrained to believe that "all myology resolves itself into neurology," and that behind the nerve impulse is a fusion faculty to which we must look for an intelligent solution of these knotty problems.

DISCUSSION.

Wm. R. King, M. D.: Mr. President and Members of the Society: It is my duty and pleasure to open the discussion of this very interesting paper, which I suppose is a continuation and elaboration of the one read before the Society in 1902. Not being as experienced perhaps in the subject as I ought to be when selected for opening the discussion on this paper, it is my purpose to do my little part to dissect it and to bring out further discussion from those who have had more experience than I.

Dr. Wells has obviously devoted much time, thought and patience to a careful investigation of this general subject of the training of the so-called fusion faculty, and has evolved much that is practical and original

as well as modifying and improving the methods of those who have been working in this field, viz.: Javal, Kroll, Hale, and others.

To begin with, I must confess that I have had very little practical experience along the lines followed by the author of the paper, but I have long been greatly interested in the general subject of inco-ordination of the ocular muscles and anomalies of the fusion sense or faculty.

There is no gainsaying the fact that many cases suffering from varying reflex nervous symptoms as well as asthenopia are victims of inco-ordinate action of the extraneous ocular muscles, and frequently as well of a faulty or a lost fusion faculty.

Many of my own successes in relieving asthenopic conditions after failure at the hands of other oculists, I have been able to ascribe to the attention paid to identifying such errors and to the efforts made in effecting their mitigation or correction.

It is often not enough to adjust proper lenses for the correction of faulty refraction to an asthenopic eye, but it is also necessary that the power of fusion and of normal binocular vision be investigated, and when faulty that it be corrected at least as far as may be possible and practicable.

I am sure that too little attention is paid to this important part of the duty of the average ophthalmologist, and that a greater measure of success in relieving headaches and neurasthenias, not to speak of visual defects, would follow the more general study of muscle inco-ordination which is a fault so commonly found.

I want to congratulate Dr. Wells upon the original and unique series of test and exercise figures as he has modified and arranged them, and I am convinced that their use as he has described them must be accompanied in the majority of cases by comparative ease in diagnosis, and be followed by relief of existing heterophorias.

I have recently been experimenting with the Worth amblyoscope in a series of cases of heterophoria, and am greatly pleased with the results so far obtained. I have not as yet devoted any real attention to the regular care of this class of cases by means of the use of the stereoscope or the phoro-optometer alone.

Regarding the existence of a fusion sense or faculty independent of the presence of a marked refractive error in one eye, even when accompanied by some amblyopia exanopsia, I am reminded of two cases which came under my observation in my own family. A boy and girl each exhibited at the time of their eye examination a marked astigmia in almost the same meridian and of nearly the same degree but existing in opposite eyes and only in one eye in both instances. This astigmia coincided in axis but was of greater amount than that existing in one of the eyes of their mother, and it was generally conceded that heredity probably had some influence in the matter. The boy was born with marked external strabismus of right eye. This was entirely corrected in a few months by bandaging the straight eye for a period

of time each day. When he was about five years old and became interested in close application of his eyes, as for instance, in picture books and in using a pencil himself, the same eye soon assumed a marked internal squint.

At this time a careful examination revealed the marked astigma, and a lens was given for its correction, at the same time daily monocular exercise of the weak eye was again resorted to. The boy is now nearly twenty years old and wears only a + 0.50 cy. before this right eye, and then only when using it for extremely constant use. There exists no strabismus and no troublesome heterohporia at the present time. Vision with this eye is about five-sevenths.

The sister has never exhibited the least evidence of strabismus, and both eyes appear alike upon careful inspection. When she was about ten years old (five years older than the boy was when refraction was examined), she developed a supra-orbital headache over left eye after using. Examination revealed a marked astigmia of about 3. d., with considerable amblyopia exanopsis. Lens only partiallly correcting vision. Exophoria of about 2° exists now, but no visible deviation of axial line of eyes.

Here are two cases, one evidently born with a faulty fusion faculty, who immediately developed the tendency to the use of but one visual organ. In the other case, though possessing *at least* an equally faulty organ the fusion sense has always existed and been retained though the visual function of the faulty eye undoubtedly gradually deteriorated.

The list of cases reported by Dr. Wells undoubtedly shows an excellent percentage of good results from this treatment.

I am glad to understand that no other treatment was pursued with the thirty-nine consecutive cases he reports, otherwise, of course, little value could be necessarily ascribed to any one method of treatment.

The reported proportion of cases of absolute failure to get any improvement of muscular power would, I should say, about equal that following the methods pursued by myself in the treatment of this class of cases.

I must confess that I am puzzled in some instances why I cannot develope a particle of practical improvement in the strength and power of the muscles, when in most instances considerable improvement will follow almost any form of treatment along the line of muscle gymnastics with stimulating and toning applications.

In many instances of cases in middle life who are wearing glasses and are markedly exophoric, I find, with the author, that I give much relief to my patient by the use of prisms with the lenses. I see no possible objection to this so long as the patient must wear lenses for a refractive error, but I should denounce the adoption of constant prisms under other circumstances.

I have only begun the use of the amblyoscope and steroscope in children with strabismus. Heretofore I have secured excellent results

in many instances by the use of monocular exercise daily with the homœopathic remedy and general physicial training of the child.

Later on, if refractive error is discovered I correct it with the appropriate lens and occasionally add a prism for a time, changing it or removing it as improvement progresses.

I cannot, at this time, give accurate figures, but I know that I have entirely relieved at least eight or ten cases of convergent strabismus in very young children by the system I have mentioned, and have obtained practically straight eyes with binocular vision and a fair degree of fusion. Of course, this does not apply to cases met with after the child has supressed one eye for some years. In this class of cases the operation alone will produce cosmetic results, though usually no practical binocular vision or any degree of fusion.

I cannot fail to echo what the author has said about the prevalent rule to advise that the child wait until it is 8 or 10 years old before paying attention to strabismus.' If binocular vision and a useful fusion faculty is desirable, we must look after these cases as early as possible, and infancy is none too early.

Presumably these two conditions, viz,. a fair fusion faculty and binocular vision are highly desirable, as they are functions provided by nature when she is in normal mood.

I have not seen Black's modification of the amblyoscope by which it may be adjusted to meet vertical deviation, but should imagine it to be extremely practical, as I find many cases of vertical deviation complicating exophoria especially.

I am greatly interested in the author's extremely practical and clever device for a deviometer, and have only recently known of it through the publication of the last Meyrowitz Bulletin. I have, of course, had no experience with it as yet, but I have promised myself that this failure shall be promptly corected.

There is no doubt but that post-operative training, as cited by the author, from the exepriences of Landoldt and Javal, is most important if binocular vision or practical orthophoria is to result. If there remains useful vision in the squinting eye it can only be brought into active usefulness by training the fusion faculty, as the operation is mainly expected to produce cosmetic effects.

The author says in conclusion, "He finds it very difficult to decide whether or no the heterophoria is responsible for the symptoms." My experience is that it usually is responsible but by no means always, and I have ever striven to avoid "riding a hobby."

I have met so many specialists who could not see a reflex or a symptom which could possibly belong to or arise from any other portion of the anatomy than that in which they were interested, that I have always endeavored to remember that reflexes like the telegraph lines work equally readily in either direction, and I am convinced that not infrequently insufficiencies and inaccuracies occurring in the eyes are results rather than causes of the general trouble existing.

The closing text or quotation of the paper that "all myology resolves itself into neurology" meets with my hearty endorsement, and I am decidedly inclined to coincide with the author in the belief in the existence of a fusion faculty back of the nerve impulse.

A. B. Norton, M. D.: As the members of the Society know very well I have been quite a crank on muscle training. It has proven of great value to the patient, and has added greatly to my success in the treatment of many cases. I must acknowledge, however, that the training of the fusion faculty I have not attempted, and yet I am firmly of the opinion there is a great deal of value to be had from it. There are undoubtedly many cases that can be greatly benefited by this method. My only apology for not following the training of the fusion faculty is the matter of time. It would seem to me that it must require a great deal of time and patience to first educate the child as to what is required and then to keep him interested long enough to secure the desired results. I desire to ask Dr. Wells the amount of time, in a general way, that this requires: First, the amount of time required at the commencement to get the child started in the habit, and then the amount of time required each day.

C. Gurnee Fellows, M. D.: I should also like to know at what age we can get good results, whether at two and one-half or three years.

John L. Moffat, M. D.: The Doctor spoke of the instrument having a pupillary distance of sixty. Do I understand that the prism is so large that the patient with p. d. use the same instruments? I should expect better results with cards corresponding to the patient's p. d. There is a stereoscope made with adjustable prisms. I have always felt that it is advisable to have the adjustable stereoscope or whatever size stereoscope it may be; only the theoretical point is I have not done enough of this work to be able to answer that question myself.

George DeW. Hallett, M. D.: In line with the idea of Dr. Wells's paper, I might mention a case, and I have had more than one, but this one will answer the purpose. It was remarkably interesting to me, and I think showed a factor which is occasionally overlooked, and had it been neglected, would have made the results of the other treatment practically useless. The little girl of whom I speak was three years old; she had a divergence; the mother's statement was, "When the child is looking at nothing in particular, a sort of daydreamy condition, one eye wanders off." During my early examination when the little one attempted to look at blocks, pictures, etc., there was a lachrymation (I took lachrymation to be an indication of asthenopia). In the practical testing it was seen that good vision was present; for instance, I took a pencil point and had the child reach out and touch it, using each eye separately. That was a good test at that time; and in order that I might know exactly the condition of things, the child was examined under a cycloplegic and with the ophthalmometer,

and there was not more than one-quarter *dioptre* of hyperopic astigmatism in either eye, and the fundus was normal. Practical tests showed that it was possible for the child to make both eyes work together. I put her under treatment by Krall's stereoscope, with which you are all familiar. After six months of time, the child being three years of age and having learned a good deal in the interval, I put her through a test for heterophoria, and the child developed at that test three degrees of right hyperphoria. Later, three or four other tests were made, showing a little more, until finally it focussed itself at six degrees. The child was given prisms, at first about two degrees, and later it was increased to five degrees. The mother has been taught the use of the square prism exercise at a candle light twenty feet away, to train the internal muscles, and is continuing this treatment. I have had other cases like this, and if that little child had been allowed to go on until eight years of age, probably an amblyopia would have developed in the deviating eye; therefore, I say, carefully investigate for a vertical fault in young children showing a lack of the fusion faculty.

Royal S. Copeland, M. D.: There are one or two physiological facts that I think we can remember in dealing with these cases of strabismus in children. The first is, at birth it is usually true if not always true, that the eyes are hyperopic, and as the body develops the eyeball develops, grows longer, and perhaps the hyperopia of the eyes at birth may disappear as the child grows older. Further, the acts of accommodation and convergence are associated acts; the same nerve influence which brings about accommodation also brings about convergence. Excessive impulse is necessary in order to overcome and correct the amount of hyperopia; there is apt to be an excessive amount of convergence. So, then, acting upon these physiological facts we can paralyze the accommodation by using a cycloplegic for a few months or even a year or more, in the very early life of the child, and overcome and prevent a development of a prominent strabismus. And as a practical fact, I have seen a few cases where in early childhood strabismus was present, which undoubtedly would have been followed by permanent amblyopia. The use of atropine, the daily instillation for a period of six months or a year, has overcome the possibility of the condition as well as done away with the excessive convergence, and I have seen, I think, two cases of strabismus cured by the practical use of the atropine.

H. C. Allen, M. D.: Would it be permissible for an amateur to ask a question in a professional meeting? If so, I would like to know why, in all the papers read, and the discussions thus far, not a single mention of the wonderul help and aid of the homœopathic remedy has been made? Dr. King and Dr. Wells, did not say a word about it. Although mechanics are used with good effect, I am astonished that the still more wonderful curative power of our homœopathic remedies has not been found. This is a homœopathic society. Why not use some of our constitutional remedies in the correction of these refrac-

tion or inco-ordination of muscles of the eye in children, strabismus and other abnormal conditions in that direction? I think they would be agreeably astonished in a very short time by the improvements in these children. One gentleman read a paper here in which he said glasses fitted and sight was normal, and continued so for two or three years, and then the glasses were no longer useful, and new ones had to be fitted, or something else had to be done. Why not give the patient the benefit of the constitutional improvement from our homœopathic remedies, so that the glasses that are once fitted may go on and be worn by him without further trouble.

William R. King, M. D.: Something in Dr. Copeland's remarks makes me want to ask him a question. I want to know if Dr. Copeland ever had, in any of the cases in which he has used a cycloplegic for a number of months, a case of chronic, stubborn retinal hyperæsthesia as the result of the instillation? I have seen such results in two cases coming from other practitioners who follow that line of practice, paralyzing the focal power in either one or both eyes for complete rest of the accommodation, and in both instances found these conditions very stubborn and very difficult to relieve even. One instance I recall very plainly, the gentleman, a business man in my city, could not use his eyes by gas or artificial light at all on account of this long-standing decided retinal hyperæsthesia, which followed immediately the use of the cycloplegic for the purpose of refraction. It will do the work, but perhaps it will do something else also. Be careful when you use such methods and do not let them become routine.

George DeW. Hallett, M. D.: I would like to point out that only in cases of overaction on the part of the internal recti muscles would atropine be appropriate. In the case I mentioned, for instance, with the tendency to divergence because of the heterophoria atropine would be quite useless.

Royal S. Copeland, M. D.: Mr. President, I want to answer the Doctor's questions, and I shall do it in the truly Yankee style by asking another: Would it have been if the atropine had not been used?

Thomas M. Stewart, M. D.: I have waited for some one to give our visitor, Dr. Allen, the courtesy of a reply to his very pointed question. I believe every specialist here has had experience along the lines of the use of the homœopathic remedies that are quite similar to my own. I do not think we can cure amblyopia, hypermetropia, all degrees of astigma and muscular errors by the indicated remedy. I have tried faithfully to overcome many of these things with our potencies. I have kept very careful records of my cases. I have been very careful to get the totality of symptoms. I have prescribed Sac. Lac. in many of these cases for *many prescriptions* in order to meet what I thought could be met by the homœopathic remedy, and have failed. Now, then, I do believe it is going at this thing properly to make the investigation with our modern methods—the use of the retinoscope,

ophthalmometer and the use of the mydriatic—and then apply the thing that fits that case, and go at it with the rifle instead of, I will not say "shotgun," because we do not use it. But I will say this, Dr. Allen, there are many of these cases that, after we have done our very best with other methods, still need further relief by our remedies, and that is where Homœopathy has done me good, and that is where many have had similar experience. Cases along these lines have to be managed by glasses, the prismatic exercises, etc., and it is after that, that the remedies are used, and perhaps the specialist does not think to speak of them.

While on my feet I want to mention one other thing because it applies to what has been said in several papers, and probably will apply to other papers, and that is in the use of prisms and the manner of putting them on the patients. I have had some opticians in my city lay in a stock of prisms cut to No. 1 size, so as to fit in frames for the patient; and every patient who goes to the optician has a frame fitted accurately to his face. Then if there is a refractive error the correcting lens is cemented to the prism; the correcting lens are made flat on one side and round in shape, just enough to cover the surface of the prism; and as you go along and develop the latent heterophorhia conditions you can change the prism from time to time, and if the refraction changes, as it does according to Dr. Brooks, the astigma will change, the degree will change, and you can change the correcting lenses. It is a much better way than to have a number of prisms and hand them out to the patient in the frame they happen to be in. It is cheaper than paying the regular list price of spherical glasses which are quite expensive. That is a little point that will help in the proper *management* of the case.

H. C. Allen, M. D.: If every member here has been using the remedy I will ask them why they did not say so.

John L. Moffat, M. D.: I think I spoke of a ci-devant homœopathic oculist in New England, who said that he did not believe our drugs could effect the interior of the eye. Thereupon, he was asked: "What right, then, have you to expect us to send our patients to you in preference to old school oculists?" In our meetings, journals and other literature, it is for us to show the difference between homœopathic and other specialists. (Applause.)

David W. Wells, M. D.: I want to thank Dr. King for his very kindly discussion. I am sure I am very much obliged to him for his words of commendation. In the successful cases no other treatment was given the patient, excepting that mentioned. In the failures a great deal was tried but with no success.

In answer to Dr. Norton, a high amount of convergence can be developed very quickly with the stereoscope. Perhaps a patient will fuse prisms of sixty diopeters in the stereoscope, when he cannot use ten of loose prisms. The fusing power is very efficient to make the eyes turn in. The time necessary in an office visit is possibly twenty minutes to half an hour in using the stereoscope. At home patients are required to read with the control device, with which all work is done.

The stereoscope issued with concrete pictures, ten or fifteen minutes three or four times daily.

Dr. Fellows spoke of the age of the patient. As stated in the paper, the younger patients gain in power much more rapidly than the older ones; but I have good success with patients as old as sixty years.

John L. Moffat: As the interpupilary distance is not uniform, I should expect better results if the charts and cards correspond with it; there is a stereoscope made with such an adjustment of its prisms.

David W. Wells, M. D.: We can arrange the prisms for the adjustment of that in the series H, which consists of a black disc with a white line half bisecting it on one side and a similar disc with white line half dissecting it on the lower side. These are fused into one disc with the white line completely cutting it in two. These charts are made of varying distances, from eleven to two and one-half centimeters between centers, and can be used in an ordinary stereoscope. This set is copied from Javal.

Dr. Copeland advocates putting atropine in both eyes. I have not had any extensive experience with that form of treatment. I do not believe in it. I believe if we have a squinting eye the atropine should go in the other eye and compel the use of the non-used eye to enable it to develop, and if squinting occurs in the previously straight eye, then we must stop the atropine in that eye, and if the squinting comes back again in the original squinting eye have recourse again to the atropine. I do not believe in atropine in both eyes. One eye may squint because of some refractive error. It is not as serviceable an eye for the patient as the other eye, and I believe we want the atropine in the eye that is straight and not in the squinting eye.

In answer to Dr. Allen, I would say no other treatment was used in these cases, because there is no other way, as Dr. Harold Wilson has well emphasized, to determine what is the effective element in the treatment unless we do adhere to one method of treatment in reporting results. If we use medicine, prism exercises and glasses we cannot know which of all these things is the effective element in the treatment; and I can see no other way to determine this except to confine ourselves to the "single remedy" when reporting cases.

ON THE ELECTRO-VIBRATION OF THE TURBINATED TISSUE.

BY J. MOUNT BLEYER, M. D., F. R. A. M. S.,

New York City.

IN this paper I shall attempt to present the useful purpose that faradism has served me in treating this form of disease involving certain conditions of the turbinated tissue, which from time to time we have been in the habit of treating according to the prevailing fashion of the moment; now mechanically, then again by the more radical means of surgery, the cautery, the saw, the snare; involving a tissue destruction to which, in some instances, I have been for a long time opposed, and which I availed myself of in the hope that some day I would hit up on a better plan of procedure; more physiological, and less often accompanied by results ranging from beneficial to positively bad, if not, to say the least, lastingly harmful. I believe, from the results of two hundred cases treated by the method as I shall describe it, without going into the details of each individual case, I have found a remedy for the treatment of simple hypertrophied turbinated tissue that is far better than either the medication treatment or surgery, or both combined. *It is "faradic vibration."*

Whatever prejudices the practitioner in general, or trained specialist, may have to the use of electricity in the healing art, let me ask you to fling them aside until you have tried this method. It is not only the specialist who can utilize faradic vibration, but the general practitioner has it within his power to apply treatment to cases which hitherto have baffled his best energies and fallen into the hands of the specialist. In short, I plead for a fair, impartial trial. The time has come when those of us who have given years to the careful study of the curative usefulness of electricity must plead for tolerance among our colleagues, and an impartial hearing. Electricity has many uses, and I am sorry to say many abuses, which in no few instances come from so-called specialists, ranking high as leaders in the slowly growing science of electro-therapeutics. As in all new movements that are alluring and promising we must wade through them and outlive the charlatans who are always on

the alert to take advantage of the intimations worked by thankful investigators, and who proclaim the birth of the chick long before the egg is laid. These men are the slaves who follow the victorious army, and who by unjust usurpations, with no object save personal aggrandizement, style themselves leaders; frown down honest thinkers, men who feel it a duty to record their failures with the same even spirit in which they make known their successes, in the hope that the kernel may be sifted from the chaff, and finally succeed, as one can readily suppose, in throwing the science into disrepute just as the quack does his nostrum, which may be good for something, but turns out good for nothing, simply because he uses it as panacea for all ills. Copaiba in emphysema is a good remedy in bad company. The same may be said of electricity; it is a good remedy, which unfortunately has fallen into the hands of men who have ceased to be, if they ever were, diagnosticians, physiologists, physicists, and who simply are electro-therapeutists, precisely as are other dishonest practitioners, calomelapeutists and ipeceapeutists. Electricity has still to pass through its era proclaimed. It is therefore that I ask for an impartial hearing. I beg of you to restrain the rising claim that this is electrical rot until I have had my say. The good account faradism has rendered of itself in this instance is due to the fact that I unhesitatingly say that we have studied and carefully observed its physiological action, and have just begun to bring it under the control to which all remedies are subject, that of intelligent dosage. This has been rendered possible by the recent improvement in faradic machinery, the results of the combined ideas of many who have worked toward that end; but with all we are far from the ideal of perfection, which might be attained the sooner if the general profession gave us support and encouragement instead of continued censure and criticism. These criticisms are undoubtedly due to the fact that a large per cent. of medical men are ignorant of the first principles of the physics, and therefore cannot understand the physiological or any other action that electricity has upon the human economy. For this reason many squabbles are continually occurring, and will do so until we educate the physician up to the standard necessary for him to comprehend the very principles of electricity. I simply make these remarks, so that I may be rightly understood and not classed among those who quack it through instead of using this most valuable of remedies with intelligence. By means of induced currents (faradic electricity or interrupted current) very powerful currents can be obtained, but currents which only last a short period of time. If we wish to apply the induced currents thera-

peutically or for experimental purposes, we must find means of generating them in quick succession. An apparatus for this use is called an induction apparatus or a faradic battery. To be more explicit: the essential parts of an induced-current machine are spirals with iron cores, which are moved quickly past powerful magnetic poles. An ordinary faradic apparatus would then consist of a primary coil having an iron core, and a secondary coil which is wound over this primary coil. Through the primary coil a galvanic current is passed, the make and break of which follow rapidly upon each other. This make and break in order to produce this phenomenon, which is necessary for the rapid interruptions of the current in the primary coil, an automatic circuit-breaker is provided. This may be simply a vibrating armature of an electro-magnet, alternately energized and de-energized, which armature in vibrating alternately makes and breaks the primary circuit. Such arrangements are usually found in small induction coils.

Definition of Induction.—What is Induction? What are induction coils? By common consent this term is employed as a name for an apparatus invented by Musson & Neef, and subsequently by M. Ruhmkorff, consisting of a bobbin wound with a short coil of stout wire, over which is wound a secondary coil of very fine wire of many thousand turns, well insulated from each other, the whole fitted with a central core of iron. The name is not happily chosen. It should have been inductive coils, since the word inductive means leading, persuasive, productive, and the use of these coils is to produce a high tension electric current from one having a low tension. The term inducing coils would have been still more correct, since inducing is part of the verb induce, a word meaning "to influence; to persuade; to actuate; to impel; to allure." The appropriateness of those terms to the electrical instrument under consideration will be seen, as we proceed in explaining the principle, construction, and their mode of action. The word "induction," on the other hand, comes from the verb "induct," which means "to introduce; to bring in; to put in possession," none of which apply appropriately to the action of the inducing or inductive coil. Scientists have given different definitions for the term "induction," but most of them are not clearly defined. Perhaps it will be more easily understood if put in the following words: Induction is the name given to the attracting or repelling influence exerted by a current of electricity on all material lying in and near to its path.

Theory of Induction.—Early theories respecting induction were based on the assumption that there existed two electricities, one positive, and

the other negative, both of which were fluids. The fluid theory has been abandoned by electricians, because modern observation of electrical effects has rendered the theory no longer tenable. The other theory of two electricities, that is, two kinds of the same thing, such as positive and negative, answering to the terms male and female, is also fast passing away, although we still speak and write of electricity as being positive and negative, but we use these terms more to distinguish the backward and forward movement of the current than to assume the existence of two separate and different forms of energy. Some of the newest theories respecting induced currents of electricity are based on the assumption that all bodies are enveloped in a fluid, to which the name of ether has been given. The electric current in passing through a conductor disturbs the arrangements of its component parts, and these in turn are said to disturb the ether, which then transmits the disturbance to contiguous bodies. Whether this theory is based on fact or on fancy, we cannot here determine, but the fact remains that there is such a disturbance set up in bodies near to electric conductors, and these are specially observable at the instant when the current of electricity is interrrupted, as when the electric circuit is broken. The observed effects go to show that the interruption causes a kind of eddy or back wash in the current, which is felt by other bodies susceptible to its influence, and observed in them as a current flowing in an opposite direction to that of the inducing current. The inducing effects are more strongly shown in conductors actually in contact with the insulating substance; but they are also observed in conductors separated by air space only from the inducing conductor. This goes to show that either the air or some similar invisible conducting medium transmits the inducing effects of one conductor to another conductor.

Principles of Induction.—Before we proceed further in the study of induction or of inductivity, it will be advisable to notice a few of the principal facts, or laws, governing its action. These, when well understood, will guide us regarding the construction of coils for the faradic machine, or induced-current apparatus.

The inducing conductor and the conductor to be induced must run parallel, side by side. The inductive effect is weakened when they cross each other, and may be neutralized by a transverse position. The bare conductors must not touch each other, but must be separated by an insulating medium, or so-called non-conductor of electricity. If two conductors are in contact at any part of the circuit or are insufficiently insulated, they combine in forming one conductor, the primary current

in one direction only; and consequently there will be little or no inductive effects observed. The insulating medium should be as thin, and yet as perfect as can be obtained. The turns of the conducting wires of a coil should not only be wound regularly side by side to get the best effect, but should also lie close to each other, separated only by the thin insulating medium, since each turn exerts an inductive influence on its neighbor, and this influence is weakened by overinsulation and want of contiguity. It will be seen further on, when we consider the relative values of insulating mediums, that the best of these are conductors of electricity when the tension or pressure of the current is sufficiently high to overcome their resistance. Therefore, in planning the insulation of the wires and other parts of a coil, regard must be had to the tension of the current employed in working it, for if we employ a current of higher tension on an imperfectly insulated or badly arranged coil, with a view to obtaining better effects from it, the extra current forced through the coil will overcome the resistance of the insulation and break it down. Whenever this occurs in a coil the inductive effect ceases, because all the compactly insulated turns of wire unite to form one large conductor, in which the inductive effects of the well-insulated turns are absorbed.

The inductive effects of a current are observed in at least three manifestations: (1) When the insulated conductor is wound as a wire around a mass of soft non-magnetic iron, the current of electricity passing through this conductor induces magnetism in the iron and converts it into a magnet while the current is passing. The effect here manifested as magnetism only exists while the current is passing through the conductor, and ceases when the current is broken.

(2) When the insulated conductor is doubled on itself, or wound into a spiral, or made into a coil with or without a core of soft iron, the inductive effect of one turn of wire on another is manifested at the terminals of the battery or other generator of electricity, when the circuit is broken, by a bright spark, which increases in brightness with the number of turns made by the wire. A similar spark is observable at the terminals of a wire wound or laid parallel to the conductor in the main circuit, when the necessary conditions are present. This effect is only observed at the instant of breaking contact with the battery, or, in other words, on the instant of the rupture of the main circuit wire.

(3) When a wire is thus made into a long spiral with several coils close to each other, and the bared metal parts near the battery terminals are held in the naked and moist hands of a person, that person will ex-

perience a tingling sensation in the nerves of the finger at the instant when the contact is broken, and also when the contact is made again with the battery. This manifestation of induction is also only momentary, but can be repeated as often as contact is made or broken. When a long coil of fine wire is wound on and over the main coil the tingling sensation can be felt at the terminals of the second coil when contact is made or broken at the terminals of the first coil.

There are, therefore, three distinct manifestations of electricity current induction, or the induction effect of the electric current observable, viz.: The magnetic, the calorific, and the physiological.

All these three effects can be found described, and its experiments shown in detail, in all works on physics. I therefore find it useless to dilate on that part of the subject, and take up the more important facts: the physiological action of the induced current, in general and special, on the turbinated tissue.

Some of the Physiological Actions of Induced Currents.— The duration of induced currents has marked influence upon their physiological effects. The constant current of a battery only affects our system when a great many elements are used, and the weaker constant current only affects very sensitive parts; our nervous system, however, is very sensitive to rapid electrical changes. The induction current, therefore, produces far more powerful shocks than the primary current, because the duration of the former is far shorter than the duration of the latter. The difference of duration in induced currents, when massive iron cores or bundles of wire are introduced in the coil, explains the marked difference in their physiological effects. By introducing solid matter, the duration of the induced current is increased; by introducing a bundle consisting of many fine wires the duration of the induced current is lessened; therefore, the physiological effect is far more powerful. This has been proved to us by Magnus, and beyond a doubt bears important relation to the action of such an induced current in its physiological action. The effects which are produced in general in any case under treatment by electricity are *stimulating,* and tonic effects general and local. These belong to both galvanism and faradism, but especially to the latter, which acts as a stimulus, partly upon the contractile tissues, both directly and through their motor nerves, partly by its sensory nerves, and partly in a reflex manner through the vasomotor system; producing increased vascular activity in the parts which it reaches. These effects are to a certain extent shared by other modes of stimulation, as, for instance, by massage, by treatment with hot and

cold douches, followed by friction with rough towels, and so forth; but electricity has certain advantages over these other modes of stimulation, especially in all paralytic affections from its greater power of inducing, and by its vibratory and stimulating action upon the nerve filaments for quite a distance of their length and tissue contraction, and from the ease with which it can be directed to any required parts or cavities in the body. The effects which peripheral stimulation exerts upon the central organs play an important part in electrical treatment, and afford the best explanation of the benefits which follow even in cases where the treatment has been applied to the peripheral parts only.

The direct effect upon the sentient nerves by the induced current. The healthy sentient nerves are observed by the aid of the microscope to be arranged in their peripheral terminations much like fine moss, or the pile of fine uncut silk velvet. If this vibratory action of the induced current is brought to bear upon these nerves in the nose, the sensation received by the membrane during the passage of the current is as if painfully scratched. The induced current in a given bearable quantity and intensity has a greater effect upon the sentient nerves, in proportion to the frequency of the interruptions of the current, *up to a certain degree,* which, for instance, may be about all the nerves can bear; but if the vibrator of any machine is screwed up a trifle so as to make the interruption extremely fine and rapid, then the current is more easily borne, and not only so, but it then becomes almost or quite pleasant.

But I am of the belief there is in this case more indirect effect—*i. e., reflex action*—because this current more nearly resembles the continuous galvanic current. A pretty rapidly interrupted current has more effect on the sentient nerves than very slowly interrupted currents, because *it is the law of their action to feel or retain the effects of an impression for some little but appreciable time after being acted upon.* So where a sentient nerve that is in health is subjected to the action of a single blow of an induction current, if of low tension, there is almost no sensation; but if these blows or shocks are then *repeated* faster and faster, the sensations will likewise increase, because the sentient nerve is not now in its normal state—*i. e.,* when it receives the second, and third, and succeeding shocks—but is in an excited condition, or polarized. Thus it is easy to understand why the sensations produced by the induction current increase in proportion to the velocity of the interruptions, to a certain degree.

Since the construction of the first induction machine or faradic battery by Musson and Breguet many patterns have evolved from it—with

more or less additional improvements. For the treatment of simple hypertrophic turbinated tissue a good faradic battery is the first prime consideration in order to succeed. There are numerous fine machines on the market which will suffice for the purpose, but I wish to bring to notice a pattern of one which, to my mind and experience with the same, is the archetype of all others, because it embodies all true principles of a model faradic machine. The invention is of Dr. George J. Englemann,

of St. Louis, and another type of my own. The characteristic features of this apparatus, which give to the current its controllability and extended range, are: "1. The use of two motive powers, the separation of the primary flow through the coil from that which propels the interrupter—in other words, a separation of the forces which serve to produce the interruption, and the current proper, with smoothness of current, admits of perfect regulation and control of each, independent of the other. 2. The interrupter, which is characterized by rapidity and controllability; (*a*) it admits of greater rapidity of interruptions than hitherto known, thus extending the physiologic and therapeutic efficiency of the current, and (*b*) the control of these interruptions is perfect,

making record and comparison possible. 3. The series of secondary coils, varying in the number of winds and the thickness of the wire used, each of known physical and physiological power, adapted to its special therapeutic purpose, for reduction and stimulation, for effects on nerve or muscle."

There is no doubt that the rate of vibration is one of the most important factors in determining the therapeutic effect of the induction current, and merely as it was formerly treated, a mechanical necessity for the production of such currents, and very secondary part in the apparatus, as it has always been, and still is, in all faradic instruments. However, regularity of vibration or interruption is essential to a serviceable therapeutic current, and to obtain this, we not only have an interrptor acting which far greater regularity than the old-time vibrator as ordinarily constructed, but, in addition, the vibrator must be controlled by a separate force, entirely distinct from the coil current, as it is in this apparatus.

The therapeutic importance of vibration or alternations on which Dr. Englemann and myself lay so much stress became also an accepted fact through two scientists, Mr. Nicola Tesla and D'Arsonval. The former having demonstrated the marvelous mechanical results of rapid vibration, and the latter having proven the surprising insensibility of the system to currents of extremely rapid alternations. The remarkable results of vibratory action have been sufficiently demonstrated of late, and the varying effects of such vibrations of various mediums upon different nerves are the subject of physiological and therapeutic experiment. The more varying the effect of different rates of vibration the more important is their perfect control.

The increased rapidity of interruption and the ability to control it give a wide scope to the efficiency of the current, increase its sedative powers, and render the application of effective currents possible to the most sensitive tissue—certain results, especially decided vasomotor effects, being produced by rapid interrupted currents, which are no longer perceptible to the sensory nerves.

Dr. Englemann says: "Whatever be the theory of these rapid interruptions—whether it be true or not that the effect of the faradic current is mainly due to its mechanical influence upon the molecular constitution of the organism—the facts are that this variability, which is the very life and essence of faradic electricity, is likewise one of the most essential factors in determining its therapeutic efficiency. This is readily proven by observing the physiologic effects of the lower rates of vibra-

tions, the highest obtainable by the spring vibrator*—one best demonstrative of these interruptions with fine-coil currents.*

Electro-Vibratory Massage is the art of applying an intermittent induced, or interrupted current (faradic electricity) with a specified amount of makes and breaks, periods or interruptions, by means of an electrode, directly to the hypertrophic turbinated tissue within the nasal cavity, or other parts to be treated by this method. As a contrast to electro-vibratory massage usually spoken of, is the act of applying intermittent pressure and strain to the muscles and other accessible tissues. The means employed are rubbing, kneading, and light pounding, combined ordinarily with more or less additional stimulation of the skin—strated by the use of mild currents; but, as such currents would cease to impress the sensory nerves, and would no longer be recognized by them if interrupted with greater rapidity, stronger currents must be used to test interruptions of greater rapidity."

Dr. Englemann has placed in our hands a new appliance, capable of giving us high rates of interruptions, together with a perfect control of those interruptions. Vibrations from one to one hundred thousand per minute are obtainable. I am also of the same belief with Dr. Englemann that fifty thousand interruptions to the minute are ample for all therapeutic uses, in connection with the primary and secondary coils, as now used in practice. By this mode of rapid interruption a most valuable means is given us—we can employ strong efficient currents without discomfort—and is found in the nerve-quieting, sedative effects

---

*"Great vagueness exists as to the rate of vibration of the average vibrator, and as a rule this is overestimated. An ordinay spring may vibrate 2-3000 times per minute, 40 to 50 per second, and a better instrument at most from 4-6000 per minute, or from 60 to 100 per second; to determine this with percision by a tuning-fork is possible, but a difficult task for any but the skilled experimenter; the simple determination by the comparison of the note sounded is uncertain and subject to a most variable individual equation as well as other sources of error. My assertions are based on my own older Gaiffe instrument, which does not exceed 3-600, and on the comparison of results from the Waite & Bartlett spring vibrator with those from the controllable interrupter current. Moreover, at the suggstion and personal experimentation of Dr. J. Mount Bleyer, of New York, the lycopodium figures obtained upon the tense membrane by the vibrator and known rates of the new Englemann interrupter have been used as means of comparison, and by reference to the results obtained by these three methods the rates of vibrations have been determined with approximate certainty."

*A description of the Englemann machine is found in the catalogue of Waite & Bartlett, of New York City. The picture above shows the faradic apparatus in full operation.

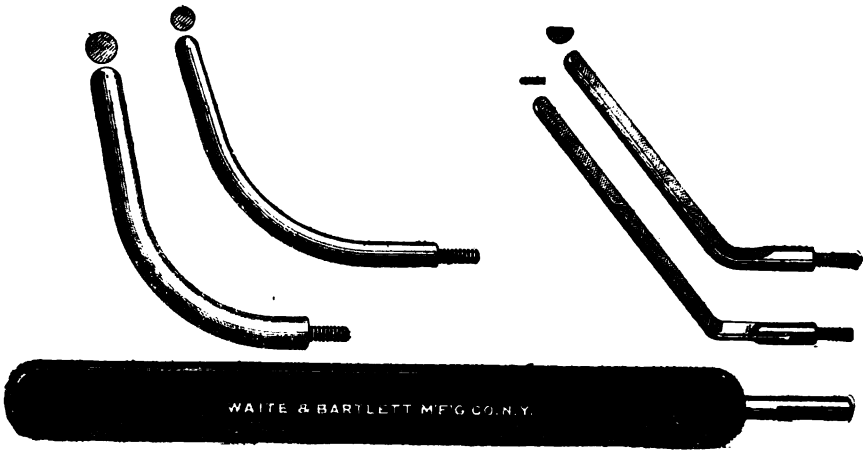
as by friction and slapping. This manipulation furthers the removal of lymph from the parts, which is especially needful when the lymphatic flow is sluggish through lack of muscular exercise. It apparently quickens the blood circulation through the part, and furnishes gentle vasomotor exercise; it acts possibly as a direct trophic stimulus to muscular and sustentacular tissues; by stretching ligamentous structures it maintains or increases suppleness; in the abdomen it stimulates and aids peristalsis, and as a general stimulation of sensory nerves it may affect favorably the nutrition of the central nervous system.

In the foregoing part of this paper, under the heading of the physiological actions of the induced current, I have rehearsed in detail its effects and its therapeutic value. It has been demonstrated to me in all cases that electro-vibratory massage acts directly on the part undergoing the vibration. It influences the circulation in the veins and lymphatics, and at the same time acts as an anæsthetic where congestions are present, as in acute and chronic inflammations, which will at once make itself evident to the operator. The gross physiological action, by applying these high-rate vibrations to the turbinated tissues, is simply hastening the absorption of the inflammatory processes and thereby reducing the size of these bodies which occlude the meatuses.

This system I have been practicing for ten years, and have applied it in over two hundred cases. I can only say the results are most satisfactory to myself and to my patients. A very important effect is noticed by the patient immediately after the first seance—that the turbinated bodies have been reduced and breathing is possible through the meatus which, previous to the application, was occluded. The secretions are more abundant, and the entire head has a feeling of clearness, which is due to the reduction of the tissue, emptying of blood-vessels and lymphatics, and the effects of an impression left by the high-speed interrupted current on the sentient nerves, for some little but appreciable time after being acted upon. Different sensations are felt by different individuals, as pinching, pricking, and—most often experienced—a burning sensation, as above-described. These are most of the physiological and clinical facts connected with electro-vibration of these tissues, which I have tried to describe as graphically as possible.

The Practical Procedure of Electro-Vibrating These Tissues.—For example let us take a hypertrophic inferior turbinated body of the left side of a patient to be operated on. The physician must be ready with a proper plant, viz., a first-class induction machine, capable of giving no less than from four to six thousand interruptions per minute. I gen-

erally use from ten thousand to fifteen thousand, produced by Englemann interrupter electrodes of different diameters and curves. These are the chief instruments for properly carrying out this form of massage. The patient is seated before a reflecting mirror, with the head in a comfortable position. A speculum must be used in order to apply the electrode over the body or tissue to be treated. When the electrode is once placed over the hypertrophic turbinated body, the current is slowly graduated in strength with the high speed of interruption at once. Allow the electrode to remain in one position over the tissue treated, for the entire seance. Don't reintroduce the electrode without stopping your current, or your patient will receive a shock, which is to be avoid-



ed; but start as you began by turning on the graduated or tolerant current with its high-speed frequence. Each sitting is to last from twelve to fifteen minutes if repeated daily, for the first week, and every other day after that. If the patient is sensitive about the nasal cavities, a two to five per cent. solution of cocaine is advisable. Regarding the time of cure, that varies, and is effected according to the extent of the hypertrophy. Some require from ten to twenty sittings; others from six to eight. Every case must be individualized; no set rules can be laid down. It is best to start on the inferior turbinated tissue first, in order to give room for the traveling of electrode. All obstructions must be removed surgically.

Some patients will be found very sensitive, in the beginning, to the induced current. This is also noticeable with all other forms of massage employed in this cavity. The current travels the distribution of the

sensitive nasal nerves, which cannot be avoided. You will often find in the beginning of the first or second treatment the patient wishing to withdraw the electrode, but he soon becomes accustomed to it. Should much resistance on the part of the patient occur, cocaine will relieve all reflex. After each sitting a strong solution of adrenalin chloride sol., 1 to 5000, dissolved in albolene or some other compound of its kind, is applied to the massaged part, and well rubbed in by means of a probe armed with cotton.

In children, where the inferior turbinated tissue is found, as a rule, hypertrophied, electro-vibratory massage has given the best account of itself.

There are no contra-indications for the use of this method. I have used it in all forms of disease about the pharynx and nasal passages, and recommend the same to my colleagues.

DIAGNOSTIC VALUE OF THE COLOR FIELD.

BY G. A. SHEPARD, M. D.,

New York City.

THIS paper does not present much that is new, but the writer feels that the subject is worthy of greater consideration than it has yet received. It is our duty to aid in the solution of this difficult problem by carefully examining the individual cases which present variations from the normal. Symptoms of great diagnostic importance are sometimes ignored as being imaginary, simply because we do not know their value. Preceding an attack of migraine the patient often sees colored flashes before vision or complains of marked dimness of vision. During the early stages of pregnancy the eyes show disturbance of function which may greatly alarm the patient and possibly cause much anxiety to the attending physician. Frequently neurotic individuals will complain that the vision is poorer at some times than at others, while a visual test at the time of supposed poor vision may show no lack of acuity for the type. Although these symptoms often bring the patient to the oculist, the real cause of trouble generally lies in the central nervous system. Careful study of the color field takes so much time that it is slighted as a diagnostic aid. But in this neurasthenic age we need to weigh carefully all the symptoms in order to rise above the plane of the mere refractionist or operator and become the physician and oculist.

Color vision is a subject which enters into the domains of both physics and physiology. No man can treat the subject exhaustively execpt he be a Helmholtz, who was as distinguished in the one branch of science as he was in the other. It is not within the sphere of this paper to take up the whole subject of color perception which has been treated so ably by Helmholtz, Ebbinghaus, Maxwell, Abney, Parinaud, Thompson and others, but our minds may need refreshing on the physics, physiology and photo-chemistry. Helmholtz's theory as stated in his work on Physiological Optics is:

1. In the eye are three kinds of nerve fibres, all identical in their structure and conducting processes, but supplied with different end organs (rods and cones). One kind of end organ we will call the red

producing or red sensitive end organ because they are supplied with a photo-chemical substance which is mostly affected by the red rays of the spectrum, though the other rays effect it also to some extent. The second kind of end organs, the green sensitive, are endowed with a photo-chemical substance most sensitive to green light, and the third, the blue sensitive, with a third substance, most sensitive to blue.

2d. By the decomposition of each of the sensitive photo-chemical substances the fibre connected with it is stimulated. There is only one kind of sensation-production activity in each nerve fibre, which is accompanied by decomposition of the organic substance and development of heat, in the same way as we know it to be in the muscle nerves. The processes in the three fibre systems are, therefore, probably of entirely the same character, and they affect us differently only because they are connected with functionally different parts of the brain. The nerve fibres need play only the part of electric wires, which are traversed by the same electric current and yet may produce the most different results according to the instruments with which they are connected. These stimulations of the three fibre systems play the role of the three elementary stimulations, provided that the strength of the stimulation, for which as yet we have no general measure, is put down as proportional to the strength of the light. This proportionality does not prevent us from assuming that the intensity of the elementary stimulation may be any complex function of the metabolism or the negative variation of the nerve.

3d. In the brain these three fibre systems are connected with three functionally different systems of ganglion cells, which perhaps are locally so placed to each other that those are near together which correspond to the same retinal area. Henschen believes that the cerebral center for color vision lies in the gray matter bounding the calcarine fissure.

The accompanying chart gives the relative amount of the primary colors in different parts of the spectrum. It shows how all spectral colors have a certain white value.

This theory makes the retina only the differentiating or selecting organ, while the brain is the perceiving one. With regard to the three photo-chemical substances they are yet hypothetical; but as we have already found one substance in the retina that is very sensitive to light, the visual purple, we may well suppose that there are other chemicals yet to be discovered by actual experiment. Perhaps we may then find that the visual purple itself plays a very important part in

color vision, as has been suggesed by Ebbinghaus. Helmholtz found that all simple colors stimulate all the light-sensitive nervous elements of the tri-chromic eye simultaneously and with only moderate differences of intensity, hence all colors have a certain white value. His theory supposes that each terminal element has its separate nerve fibre, but Salzer has found that there are 7,000,000 cones alone in the human retina, while the optic nerve cannot have more than 1,000,000 fibres.

Parinaud claims that each cone has its separate nucleus, while there is only one nucleus for 40 or 50 rods, and their combined impression is conveyed to the brain as one sensation. As the rods are not found in the macula, but preponderate at the periphery, the periphery vision is sensitive to slight light stimulus, but lacks in definition, while the macula gives perfect definition but is insensitive to slight light stimulus. This can be proved by looking at the heavens on a clear night. If a dim star is discovered outside of the line of direct vision, it disappears when searched for by the macula.

The rods are the sole source of visual purple. Now, if the visual purple plays an important part in the production of the color sensation, the periphery ought to be more sensitive than the macular region; but this is not so. According to Parinaud, the eye becomes *adapted* when light is cut off from the eye for a certain time, and becomes *non-adapted* when exposed to light. Experiments show that adaptation has very little effect upon the macula, but effects greatly the periphery. A colored spot fixed by the periphery quickly fades to gray, but when fixed by the macula the color remains constant. Possibly this proves that the nuclear layer plays an important part in the color perception, for as many rods conduct the light impulse to one nucleus, while single macular cones are connected with a nucleus, the sensitive substances residing in the peripheral nuclei are more quickly destroyed.

Keeping in mind the foregoing points, we will consider some phenomena which point strongly to the brain as the sole selecting agency for colors. When the optic nerve is cut, the patient detects a flash of light and sometimes colors. Preceding the pain during an attack of migraine the patient complains of defective vision and seeing flashes of light or colors. Gowers had a splendid opportunity to study this phenomenon in the case of Dr. Airy, who was a sufferer from migraine, and who drew color charts of his visual sensations. This so-called fortification or zigzag spectrum contained two colors, yellowish-red and blue. The same colors and visual effects are observed in the aura of epilepsy, and they are usually more pronounced in, or en-

tirely confined to the homologous half fields. This half vision is what we would expect from an affection of the cerebral centres, but not infrequently the whole field is effected. The hypothesis of a higher visual center in each hemisphere enables us to understand its seat more readily than does the theory that the half vision region constitutes the highest visual center. Gowers thinks that arrest of function in the nerve cells is indicated by the symptoms, and it seems more reasonable to regard this arrest as primary inhibition, than by assuming vaso-motor spasm, thereby invoking a derangement of other nerve cells in the vaso-motor centers. It has been known for a long time that in cases of pronounced hysteria the visual and color fields undergo marked contraction usually non-concentric in character. The study of my cases has shown me that non-concentric contraction with the persistent red field is very common where the sympathetic nervous system is over-wrought. Whereas with normal nerve centers the eye looking at spots of red or blue, in a diminishing light, will lose the red long before the blue, in hysteria, the red is the more enduring. If color perception is dependent upon the destruction of photo-chemical substances in the retina, why does the chemical blue ray lose its power and the caloric red ray still accomplish its work? Of what aid to us is the knowledge of the relative size of the color fields?

Starting with the premise that vision and color perception rest in the nerve elements of the occipital lobe, we conclude that any functional disturbance which inhibits the action of those nerve elements must effect the vision. Persons who present visual symptoms which are not explained by the ophthalmoscope can be reassured, and a proper line of treatment be undertaken, tending to correct the central nerve drain. It is not necessary to have present many of the stigmata of hysteria at the same time that we find a marked disturbance of the color sense. In nerve exhaustion from long continued overwork following debilitating disease, as influenza or malaria, from masturbation, excessive sexual intercourse, disorders of the sexual organs, or nervous shock, the color field shows that there is faulty action in the cerebral nervous system. The writer has often found in these cases an intermittent pulse dropping every third or fourth beat, which symptoms passed away at the same time that the color field became normal. If it is possible for persons with perfect vision to lose their power to gauge properly color and light values, when suffering from nerve exhaustion, it is highly important that locomotive engineers, pilots, etc., who require perfect light and color perception, should not be subjected to long hours

of overwork. To this cause may be laid some of our railroad accidents.

Five cases, with charts, will illustrate the various forms of and symptoms accompanying contraction of the color field:

Case One.—February 28, 1898, A. J., aged 27, weaver by trade. For past year has had difficulty with vision. Not able to distinguish colors at times, and lately has had to stop work. Eyes have pained only when weaving.

Examination: O. D. $^{15}/_{20}$ + 3.50 $^{15}/_{15}$.
O. S. $^{15}/_{15}$ s. d. + 2.75 $^{15}/_{15}$.

Fundus normal. Field of vision contracted slightly and colors markedly. Diagnosis, hysterical color blindness. A full correction was given, and in two weeks he had relief from all symptoms. Color field normal.

Case Two.—July, 1899, J. D., aged 31, engineer in water works. No chart.

Examination: O. D. $^{20}/_{30}$ d. + 2 $^{20}/_{20}$ d.
O. S. $^{20}/_{50}$ + 1.50 ⊂ + 50 ax 105 $^{20}/_{20}$ d.

Complains of intense frontal headache and that vision fails at times. I prescribed glass and he found great relief. During the next two years he called five times, complaining of dim vision, and test showed accommodative spasm and lowered acuity. Efforts to reduce spasm availed little. In 1901 he came complaining of hazy vision for three months. The best vision with glass was O. D. $^{20}/_{30}$ d, O. S. $^{20}/_{50}$. Perimetry showed field for white and colors contracted, chiefly for blue. Under *Ignatia* immediate improvement, followed with *Ferrum pic.* In two weeks perfect field and vision. Since then he has had two similar attacks, which were controlled by the same remedies.

Case Three.—Miss C., age 20, no refractive error.

Vision: O. D. $^{20}/_{30}$.
O. S. $^{20}/_{30}$.

Called June 21, 1903, complaining of having had much dimness of vision for three months. At that time she had a severe nervous shock, and since has been under marked strain. At times has half vision, and again has what she calls the "blinks," when she has to be led. Pulse intermittent.

Fundus normal. Color field greatly contracted for blue. Remedy, *Ferrum pic.* 3x.

June 25th, reports very much better. July 7th, reports has had no trouble during week. Vision and field normal.

Case Four.—Mrs. J., age 29. First seen February, 1897.

O. D. $^{15}/_{200}$ — 5.50c. — 50 ax 105 $^{15}/_{15}$.
O. S. $^{15}/_{200}$ — + .25 ax 120 = 2.75 ax 30 $^{15}/_{30}$.

Fundus normal.

During the following six years was seen several times and vision gave the same test. February 22, 1904, complained of having suffered from marked loss of vision for several weeks, and also from indigestion, which her doctor could not cure.

Vision with glass: O. D. $^{15}/_{40}$.
O. S. $^{15}/_{100}$d.

Fundus showed no change.

February 26th, some improvement had been made under *Ferrum pic.*

Vision: O. D. $^{15}/_{15}$.
O. S. $^{15}/_{40}$.

Later, under *Asafœtida,* field became normal.

Case Five.—Mr. B., age 57 (a man of large business interests who has not taken a vacation for years).

October 11, 1901, vision: O. D. $^{20}/_{40}$ + 1. $^{20}/_{20}$.
O. S. $^{20}/_{70}$ + 1. $^{20}/_{50}$.

States that today left vision became hazy. Color vision as shown by the wools is perfect; field for white about normal.

October 14th, reports that since yesterday has not been able to see light in left eye, but pupil reacts slightly when light is thrown into upper periphery. When light is not very bright, can catch the form of dark objects, as when looking at the side of the room cannot see the windows but can see the space between. Right eye gives no trouble, but test of color field shows marked contraction for blue. *See chart.* Dr. Van den Burg found slight anæsthesia of the surface for heat and cold. Knee and elbow jerks, < left side. On the clonus slight, same side. Indican in urine; <.

October 17th, no pupillary reaction to light. Unable to detect flash when galvanic current is broken.

October 28th, begins to distinguish light in left eye. Right field for blue, larger.

November 12th, O. S. fing., 1½ ft.

December 16th, O. S. $^{20}/_{40}$, disc looks pale, anteries smaller.

February 4th, O. S. $^{20}/_{40}$ d.

May 13th, 1903, O. S. $^{20}/_{80}$ d. Color field for blue, red and green contracted concentrically. Nerve white. O. D. shows normal field.

DISCUSSION.

Royal S. Copeland, M. D.: Dr. Shepherd's interesting paper deserves more scientific attention than I am capable of giving it. The whole subject of color vision, including its perception, its perversion and the theory of its production, is a most fascinating one.

At some future meeting of our Society would it not be well for us to consider the normal functions of the human eye? Then, naturally, we would take up the optical defects of this seemingly perfect organ. I

wonder, by the way, how many of us have read Bidwell's "Curiosities of Light and Sight."

In this delightful little book the author discusses some of the color defects. He speaks, for instance, of our ideas of distance as associated with certain colors. A room gives the impression of being larger when it is papered or painted a blue-violet color than when colored red. So, too, a red spot upon a violet ground appears to be distinctly raised above the surface, while a violet spot upon a red ground appears to be depressed.

These phenomena, which may in a sense be called physiological, are of interest to us in attempting therapeutic measures when we find disturbances in the visual perception.

I have wondered if possibly Helmholtz's theory of color perception might not be modified soon by reason of the new ideas in cell metabolism, special affinities, nerve impulse and the electro-chemical basis upon which the scientific world is more and more depending. All this is purely speculative, of course, but Dr. Shepherd has given us a new thought impulse. I am sure we will be better prepared on this subject next year than we are today.

It must not be forgotten in estimating the doctor's ideas that the refractive power of the human lens varies for the different colors. Unfortunately, the eye is not achromatic. Errors of refraction, therefore, and spasm of accommodation have their effect upon the color field.

I desire to add my testimony to the value of the homœopathic remedy in disturbances of color perception. *Phosphorus,* when indicated, has been a satisfactory prescription.

The doctor deserves our thanks for this invitation to a field new to our discussions.

D. W. Wells, M. D.: I should like to ask the doctor in regard to case five, what remedy he gave; I did not understand.

T. M. Stewart, M. D.: This strikes me as a very important point, especially in medico-legal cases; important in all cases, but especially there. In the presence of organic disease it would not be wise to depend too much upon a diagnosis of hysteria from an examination of the color field. It would be like giving a diagnosis of traumatic neurosis when the patient had organic disease to begin with. I had a case of that kind in my experience three years ago, in which there was a difference of opinion by the medical men called in to testify in the case. One side made a diagnosis of traumatic injury only. The other side made an examination of the whole patient, and found fatty degeneration of the kidney. This had escaped the notice of the opponents, although they made an examination of the urine with the centrifuge and other modern methods.

We should *exclude* organic disease before basing our diagnosis upon the examination of the color fields alone.

G. A. Shepherd, M. D.: A lady, 71 years old, came to me two months ago with the history of having lost her hearing two weeks before. On

awaking in the morning at that time everything seemed cloudy, and from that time on she had not been able to hear at all except very loud noises. By careful testing I found that her symptoms did not correspond to the sudden loss of hearing that you could get in disease of the internal ear.

She had been subjected to severe strain, and I suspected that this had acted as a cause. Examination showed marked contraction of the color field for blue. She was referred to Dr. John E. Wilson, and he found no marked signs of neurasthenia, but he did find a greatly dilated heart with vascular changes. The ear trouble coming on, as it did, very suddenly, without any previous disturbance of the internal or middle ear, will, it seems to me, improve as time goes on.

In testing the color field, it is necessary to gauge well your illumination. If it is diminished a little there will be a marked diminution in the color field, which fact must be recognized and allowed for.

SOME SUGGESTIONS ON THE TREATMENT OF ATROPHIC RHINITIS.

BY IRVING TOWNSEND, M. D.,

New York City.

IN formulating even a brief resume of the treatment of atrophic rhinitis, it is essential to begin with a consideration of the etiology and pathology, as on this foundation must stand whatever superstructure of successful treatment we may be able to rear. This subject has been appropriately termed the "bete noir" of rhinologists, and at the outset I would disclaim any intention of outlining a plan of treatment yielding brilliant results, or by which a large percentage of cures can be effected.

Careful clinical observation and experience in the treatment of these cases confirms our belief that the term "atrophic rhinitis" describes a condition manifest (to some extent) in a large proportion of patients who apply to the rhinologist for treatment. It was not many years ago that authors of text-books used the word "ozæna" as a synonym for atrophic rhinitis, but now that the former has been relegated to its proper place, it is our duty to differentiate between conditions heretofore roughly classified and designated by the general term "atrophic rhinitis."

Ozæna is a term applied to crust formations in the nose, associated with fœtor, and usually of long duration. It is merely a symptom and may be present in various conditions, viz.: Simple atrophic rhinitis, nasal diphtheria, sinus disease (acute or chronic), syphilitic ulceration, necrosis of bone, or the presence of a foreign body. Atrophic rhinitis, in addition to these, includes a definite pathological process by which the intra-nasal structures undergo a retrogade metamorphosis, from which loss of tissue, the calibre of the nostrils is often greatly increased. If we generalize broadly, perhaps no more appropriate term can be employed, but as our knowledge increases we find that "atrophic rhinitis" embraces a variety of conditions differing widely in their etiology and pathology.

1. Bosworth's claim that "atrophic rhinitis" is the sequel or later

stage of purulent rhinitis of childhood has received favorable consideration in the past.

2. Jonathan Wright, from an extensive pathological study of the subject, thinks there are plausible reasons for believing that "The essential and primary lesion in atrophic rhinitis is a *bone lesion* which interferes in some way with the radical vessels, causing compression in bony canals or against bony plates."

3. Hajek is of the opinion that previous writers who have not noted the association between this condition and sinus empyæma, have failed to do so owing to their having overlooked the diseases of the sinuses, an error into which he confesses himself to have fallen, from the same reason. Suppuration in the sinuses may be unrecognized because unsought, and even when thought of, it is often very difficult to discover. He is, however, opposed to the views of those who think that in every case of ozæna the origin is to be found in the suppuration of one or more of the accessory cavities (Michel and Grunwald), and also states that even in those cases which are attributed to purulent rhinitis of childhood the focus in some accessory cavity has been overlooked. The recognition of a focal secretion marks an advance, but, nevertheless, the *last factor* in recognition of the etiology of ozæna has not yet been discovered." With regard to the origin of the secretion, he says it is never from the atrophic areas that the secretion takes place, but, on the contrary, *always* from the parts which present a slightly hypertrophied turgid appearance. These are three of the many leading authors and rhinologists whose etiological views are widely divergent, but they have all studied the subject carefully and their opinions are worthy of thoughtful consideration. Is it not probable that more extended investigation will result in a classification of these cases into several distinct groups, according to etiological and pathological characteristics peculiar to each? Heredity, occupation, exanthematous diseases of childhood, congenital diseases, traumatism, defective nutrition of the individual, functional disturbance of the trophic nerves or blood vessels supplying the parts, deep-seated inflammations, infection by pathogenetic germs, anatomical peculiarities, pressure of tumors and disease of the accessory sinuses, are among the causes that claim our consideration. This brief resume of the etiology is given to show the impossibility of outlining a plan of treatment that will be generally applicable to *all* cases, or even a majority of them. This or that drug or local application is exploited by some enthusiastic physician, who has found it effective in one or two cases. The report is published, and it is tried

by the profession, but no such results follow, because the existing conditions may not have been the same except in name.

4. Freudenthal's paper, entitled "The Necessity of Establishing an Exact Diagnosis in Order to Determine the Treatment of Atrophic Rhinitis," gives a resume of the current literature of this subject. After quoting the theories of various observers, he announces his belief that "Dry catarrh of the anterior nares is the chief cause of atrophy, but that heredity is an important factor." Each case must be analyzed on its own merits, and the cause of the atrophic condition carefully sought before any definite plan of treatment is adopted. Strict individualization is the only means by which success can be achieved, and even then the result is often unsatisfactory to both the doctor and patient. Before assuming a case to be one of atrophic rhinitis, pure and simple, these other conditions should be looked for, and, when possible, excluded. Having eliminated all possible complications, the problem of treatment resolves itself into the best method of restoring the function of the muciparous glands, re-establishing the nutrition of the shrunken tissues and correcting anatomical defects that tend to perpetrate the atrophic process. These are the cases that furnish evidence to the minds of physicians and laymen that "catarrh is incurable."

5. Roques (Archives Internationales de Laryngol., etc.) reports gratifying results from use of Collargol, employed in the following manner: After cleansing and drying, a powder of Collargol and sugar, 1 to 30, is insufflated twice daily. Marked benefit was observed in a few days.

6. Jurgen's reports in the St. Petersburger Medicinsche Wochenschrift, for February, 1904: "A fatal case of ozæna, post mortem, revealing acute empyema of the frontal sinus and chronic ethmoiditis. The immedite cause of death was described as a purulent lepto-meningitis."

7. R. Lake (New York and Philadelphia Medical Journal, April, 1904) advocates "submucous injections of paraffine into the inferior turbinates, the object being to lessen the calibre of the air passages, put the membrane on the stretch, and subject it to the friction of a reduced current of air inhaled more rapidly." The stimulating effect of such a procedure on the mucous membrane (provided the circulation was not inhibited by pressure of the injected mass) would certainly be marked, and on theoretical grounds it would seem to be worthy of trial.

8. Mr. Stuart-Low (Journal of Laryngol., Rhinol. and Otol., April, 1903) reports a few clinical cases treated by Mucin, these being the

worst types of the disease among the many he had treated with similar success by use of this substance. The importance of following his method of preparing and administering the solutions was emphasized. The plan recommended is here detailed:

℞. Mucin, 1 tabloid, Burroughs & Wellcome.
Mucin, 1 soloid, Burroughs & Wellcome.
Lime water, warm, two drachms.
Pure water, warm, four drachms.

M. ft. sol. sig.—Spray nose once or twice daily. In addition to the spray, he recommends the tabloids internally, from 6 to 12 a day; and also that for the first week the solution be applied by the physician *daily,* by means of an applicator armed with cotton wool. If the solution irritates it may be diluted with one or two parts of warm water.

If exostoses, septal deformities, or disease of the sinuses exist, appropriate surgical treatment is demanded, after which remedies and local measures may be employed to advantage in overcoming the atrophic changes in the intra-nasal tissues. Attention to the general health, diet, hygienic living, etc., is important, and also the avoidance of conditions causing a lowered vitality or impairment of the functions of the nervous system. In cases presenting evidence of a trophoneurosis, treatment should be directed to the restoration of function of the trophic nerve centers. Galvanic and hyperstatic currents are probably most efficacious. In uncomplicated cases the local treatment is chiefly confined to the various methods by which the parts may be thoroughly and frequently *cleansed, disinfected* and *stimulated.*

Our favorite plan of treatment is to syringe the cavities with dioxygen, 25 per cent. solution, following this with a solution of salt water or electrozone. After carefully wiping away all crusts and touching up erosions or hæmorrhagic points with a solution of argyrol or nitrate of silver, an application of ichthyol, either pure or in the form of an ointment, one part to four of ung. albolene, or the same strength in liquid albolene. The proteid preparations of silver, protargol, argyrol, collargol, etc., have not proven efficacious as a general application in our hands. As a means of inducing active stimulation, a spray of dioxygen, full strength, a 1 per cent. solution of carbolic acid or phenol sodique, are valuable for occasional use, but should be applied by the physician, and *not* left in the hands of the patient.

My experience with the high frequency current has been too limited to form an opinion of its value of range of application, but on theo-

retical grounds, reasoning from analogy, it should be a valuable addition to our somewhat limited therapeutic resources.

BIBLIOGRAPHY.

1. Bosworth. Diseases of the Nose and Throat.

2. Wright, J. American Journal of the Medical Sciences, June, 1903.

3. Hajek. Pathology and Therapeutics of Inflammatory Diseases of the Accessory Cavities of the Nose. Publ. F. Deuticke, Vienna, 1903.

4. Freudenthals. Anals. of Otology, Rhinology and Laryngology, June, 1903.

5. Roques. Archives Internationales de Laryngologie, etc., March, 1904.

6. Jurgens. St. Petersburger Medicinsche Wochenschrift, February, 1904.

7. Lake. New York and Philadelphia Medical Journal.

8. Stuart-Low. Journal of Laryngol., Rhinol. and Otology, April, 1903.

DISCUSSION.

E. D. Brooks, M. D.: There is one procedure that is very helpful in the treatment of chronic atrohpic rhinitis, both where the secretion is excessive and where it is almost entirely absent, and that is massage. My practice is to use a flat probe, such as the uterine applicator, with a wire screen that will push off the pledgets when through using them, wind up the tip for about one inch with absorbent cotton, introduce it into the nostril, making it no larger than will go in easily so as to make no possibility of detachment of the material and no chance for wounding the tissue, and by a gentle to and fro motion patting the surface with the cotton-wound probe. If it is covered with crusts, as it frequently is, that loosens the crusts by starting a freer secretion underneath them and they will come off after a short time of patting and without leaving the surface to which they adhered wounded or bleeding or raw, as is frequently the case if it is removed by a syringe or by a forcible spray or by trying to wipe it off. I have had those experiences, but I found if you take the probe bent at the proper angle for nasal work you can introduce it as far back as you want, even as far as the laryngeal wall; then you apply a to and fro lateral motion, even very rapidly if you wish, moving it up and down as you pat it, and drawing it forward as you wish to cover more surface, removing the cotton and replacing it with clean cotton as required. I find splendid results even with patients that smell to Heaven, as they say. One I had under treatment three weeks, and one day asked him to go to church with me, and I thought that service would never be finished. By following the above plan I relieved him in two weeks' time, so that his breathing was as

sweet as a child's breath. I gave daily treatment. I would not think of giving less than daily treatment. Twice daily would be better, but this patient would submit to treatment only once daily. In other cases where there has been a deficient secretion I have also done very good work. One patient comes to me now who has been suffering for three or four years. He has been using an oily solution of menthol in a nebulizer. He depends entirely upon the use of his voice for a living. In the winter season or when it is cold weather these people suffer a great deal from the dryness of the pharynx and larynx, and this stimulates the parts to more abundant secretion. He gets along very comfortably, indeed, and now he has been able to get through the winter without having a severe cold, whereas formerly he came to me frequently with a fresh cold.

A. Worrall Palmer, M. D.: Does Dr. Townsend think balsam of Peru acts upon the glands? I did not hear him speak of it.

Daniel A. MacLachlan, M. D.: I have in late years used a remedy that some years ago I very much discarded, and I think I have found even better success than I used to obtain with it. I refer to Permanganate of potash. I used to use that twenty or more years ago, and thought I got excellent results from it. I had given it up until during the last two or three years I am using it again, particularly in cases that are rather dry in secretions, and I think that I get better results from it than any other application I have used. It seems to me in a few of these cases the internal remedy ought to be resorted to always, and I fear we hear less about that than we used to. In my experience in a good many of these cases I have found some constitutional dyscrasia, and have never seen any reason to give up the old remedies I used to use, and I think in a great many of the cases with prolonged applications following constitutional measures intelligently and persistently administered. we get good results where we fail from the use of local treatments alone. I think very few local measures alone will cure these cases.

A. Worrall Palmer, M. D.: I have found a solution of orthochlorophenol, fifty grains to the ounce of glycerine, has given relief in many cases.

John L. Moffat, M. D.: I am satisfied we are not doing justice to Homœopathy, to homœopathic specialties and to our patients if we do not try homœopathic remedies, and these bad odors are relieved more permanently with the remedies than by applications alone. *Kali bichrom., Asafœtida, Aurum, Nitric acid* and *Psorinum* are the five most prominent remedies. I would like to ask Dr. MacLachlan how he uses Permanganate of potash.

Daniel A. MacLachlan, M. D.: I ordinarily cleanse the cavities with some simple application. such as Dobell's solution, removing with my instruments any large accumulations; then applying the permanganate in about two to ten grains to the ounce; the average would be about five grains. You find some cases respond to the stimulating effect of the

permanganate much more quickly than others, and I am in the habit of using the solutions strong enough to get some of the pungent stimulating effect upon the mucous membrane.

Harry S. Weaver, M. D.: I have used permanganate a great deal. In fact, I rely upon it as an old stand-by in these chronic cases, and I use it in this way: Of course, I use stronger preparations in the office, but I give the patients a bottle of Permanganate of potash crystals to take home, and instruct them to take about one-half grain in a tumbler full of water, and have them use that as a wash; and I preferably have them sniff it up into the nostrils, and not to blow the nostril hard afterward, so there is no danger to the Eustachian tubes.

There is another application I have used in these cases, and that is lignol. It is a phosphoral I have only used lately, and that I use as a spray in about one or two per cent. solution in fluid albolene two or three times daily, especially following cleansing with Permanganate of potash a few times daily at home. It acts especially as a stimulant to the mucous membrane.

Charles H. Hubbard, M. D.: The treatment of atrophic nasal catarrh seems to be largely a matter of try; oftentimes it is wholly impossible to arrive at the etiology of the case, and then one's treatment is largely in error. I have given *Nitric acid* internally, and I have used a solution of the same locally with good results. I have also used the balsam of Peru with good effect. The massage spoken of by Dr. Brooks I employ daily with most beneficial results.

J. Ivimey Dowling, M. D.: Every time I treat a case of atrophic rhinitis I have brought very forcibly to mind my days at Flower Hospital and Dr. Doughty, the gynæcologist, because while there I had learned from the doctor to use preparations of Ichthyol in uterine diseases, and by analogy I have since learned to use them in the nose. I use "Ichtholdine" in many cases exhibiting crusty formations and the various other destructive changes of atrophic rhinitis. For some cases I employ tampons saturated with the pure or dilute preparation of "Ichtholdine," which is a solution containing ichthyol, tincture of iodine, glycerite of hydrastis and boroglyceride. I insert the tampon and leave it in the nostril fifteen to thirty minutes, when there will be a profuse watery discharge which washes away the crusts and prepares the parts for local applications. I use tampons in the office, and give a spray to take home, consisting of one part "Ichtholdine" and seven parts water.

J. N. Anderson, M. D.: One remedy I have not heard mentioned in atrophic rhinitis is Acetozone. I give it in solution of 1-2000, to use at home, and every two or three days I have them come in and cleanse the parts thoroughly and make a stronger application myself. Of course, as a rule, I give constitutional treatment, carefully selecting the remedy.

John L. Moffat, M. D.: Speaking of Acetozone, I have had my attention called to Alphozone, which seems similar to Acetozone, except

it is non-poisonous. In dispensing Acetozone there is danger of an explosion. With each I have had fine results in corneal ulcer.

The President: Has any one anything to add in the way of remedies to Dr. Moffat's list?

Charles H. Hubbard, M. D.: One time I gave a patient *Iodide of mercury* by mistake. I intended to give another remedy but got hold of the wrong bottle. The patient did so well I kept him on it, and he needed no further treatment for two or three years.

J. N. Anderson, M. D.: I would like to ask Dr. Moffat what strength he uses.

John L. Moffat, M. D.: One grain to two ounces in the eye. I have never tried it in atrophic rhinitis.

Irving Townsend, M. D.: I do not know that I have anything to add, Mr. President, except this: I have used *Bichromate of Potash* internally, perhaps more often than any other remedy. I have also used it in solution as a local application, and where there are crusts, which on removal are followed by bloody discharge, I always think of it. I wish to emphasize particularly the importance of more accurate differentiation between these different classes of cases which are commonly known and described by the comprehensive term "atrophic rhinitis," when really many of them are cases of sinus disease, involving the ethmoid cells, frontal or antrum of Highmore. Where the fetor is persistent and is not relieved by Dioxygen or other deodorants, it is safe to conclude that there is a deeper source than the nasal cavity proper. It may result from necrosed bone, or from disease of one or more of the accessory sinuses, or even from the presence of a foreign body.

THE MASSACON.

BY C. GURNEE FELLOWS, M. D.,

Chicago, Ills.

WE are all anxiously looking for something that will help us in the treatment of our chronic cases, and there is nothing which dampens our enthusiasm so much as our inability to improve deafness. We hear marvellous cures reported from time to time, though, I am sorry to say, very infrequently by the hohœopathic remedy. We hear wonderful claims by the manufacturers of new instruments, and in our Institute we have devoted a good deal of time to the application of massage and the investigation of new instruments out of which I am sure we have all derived benefit, and our patients have received the best treatment to be obtained from the latest discoveries.

The massacon is a comparatively new instrument. Some ten years ago I read of the reports of an electrician in Mobile, who, in experimenting, had discovered some wonderful device for making the deaf hear, and I took up correspondence with him in reference to it. He told me that he was on the road to an improved apparatus for magnifying sounds sufficiently so that those who were deaf and dumb could be made to hear, and consequently speak; but that he was not ready to announce it yet to the medical profession. Atfer the lapse of time this same man, Mr. M. R. Hutchinson, brought out a set of instruments called the akoulallion and akouphon, and at Richfield Springs, he personally demonstrated these instruments. He now has perfected something which he considers better still, and the result is the massacon, for the treatment of deaf people, and the accousticon, which is an instrument that those who are more or less hopelessly deaf may use to augment their hearing both for private conversation and public places.

It is not necessary to go into the description of the instrument, for it is on exhibition in the adjoining room. Neither is it necessary to go into the history of the cases of chronic middle ear catarrh, with consequent deafness, for they are familiar to you all, and I want to take your time to call attention to this instrument as another means of apply-

ing massage, with some of the claims of the inventor, and a little practical experience during the last year.

"The office of the massacon is to massage the middle ear so that the ossicular chain may be revitalized and restored to full vigor, sufficient to throw off the effects of the catarrh and to enable them to resume their normal function of transmitting sounds to the inner ear.

"As the motion of the ossicular chain, under normal conditions, is caused by æreal vibrations, it is reasonable to assume that the proper method of employing massage will be through the agency of a soundless body. Instruments constructed in the past for massage purposes have not produced a force sufficient to break up these adhesions, they merely imparted a swaying motion that moved the ossicular chain en masse, and in some instances increased rather than diminished the abnormal condition.

"In the earpiece of the massacon is a diphragm operated by an electro-magnet, which may be made to vibrate with any degree of rapidity or intensity. This vibration is imparted to the drum, but the maximum movements does not exceed that of the drum when performing its normal functions. It is hence conveyed to the ossicles, which, after the manner of a disused limb, are gradually restored, and these bones resume their normal condition and ues. This form of massage creates a normal blood supply, which carries off the old matter, thus restoring the ossicular chain to its normal condition, with the final result of the practical restoration of the hearing sense, of which there are hundreds of examples due to the use of the massacon."

From a recent letter from Mr. Hutchinson I quote the following:

"It differs from other massage apparatus in that the sound therefrom is of sharp, saw-toothed characteristic, which has the effect of traversing the entire molecular structure of the ossicles. Other massage instruments have simply moved the chain of bones en masse, and have hence not only been ineffective, but absolutely injurious, by imparting a too great amplitude of vibration to the parts."

"The effect is a decided stretching and consequent looseness of tympanic membrane from which it seldom recovers.

"The massacon *does not impart to the tympanic membrane motion to exceed that through which it travels when acting under normal conditions.*

"It will be noticed that the decided tickling sensation traverses not only the ossicles but the Eustachian tube as well, producing in some instances a very decided warm glow throughout the length thereof. I

have known of cases of the Eustachian tube having resumed its function through the application of the massacon alone. While this may sound strange, it is true nevertheless. And it is advisable to accompany the massacon by proper treatment to admit air in the tympanic cavity, and to make the Eustachian tube resume its normal function more quickly.

"The temporary effect in cases that are to all appearances exactly similar varies. With some the tinnitus is increased. As stated, all effects are at first but temporary. I have known of cases that had a temporary decided increase of tinnitus and of deafness, in fact, for two or three months, when suddenly the hearing commenced to come "by bounds," and eventually entirely returned. I know of one case of a man seventy-four (74) years of age whose hearing and tinnitus increased tremendously for four months and a half. The next half month saw his hearing completely restored to him. Others improve quite quickly at first, but reach a stage at which they seem to remain for a long time. They take another "spurt" after this intermittent period and get rapidly better, and in many cases entirely cured.

"I have not known of a single case where the hearing was permanently decreased by the use of the instrument. Neither have I known of any inflammatry conditions caused therefrom."

There appeared on the market some years ago an instrument resembling a banjo, which was intended to massage the ear by musical sounds. This was ineffective because of the fact that the sound wave emitted thereby was of the sinusoidal characteristic, while, as stated, the sound of the massacon is of sharp, saw-toothed characteristic. So the massacon cannot be judged by comparison with any other device that has appeared.

In applying it the power should be turned on before it is placed to the ear. It should then be gradually approached until it lies snugly against the auricle. Some get the tickling sensation better when the instrument does not fit close, while others have to press it tightly against the auricle. After the application the instrument should be removed from the ear slowly. The idea is to prevent a too sudden stopping or starting with its consequent effect upon the nerves of the patient.

As a rule, those troubled with tinnitus, who are able to hear in a noise, more readily respond to the treatment than others. By this I do not mean to say that it is not of value in other cases of obstructive lesion. The conditions mentioned are the most favorable.

The claim is made that tinnitus is frequently relieved among the

first symptoms, and that the use of the massacon has been productive of immense benefit after other means have failed. It is not recommended as a *cure all* for these chronic cases, but is to be taken in conjunction with inflation, catheterization and other well known means of treatment. Its greatest usefulness lies in the fact that the instrument is compact and fairly reasonable in price so that it may be purchased by the patient and used at home with sufficient frequency to insure good results, whereas many of the other instruments for massage upon the market being used at the physician's office alone, and being exceedingly beneficial in themselves, cannot be used frequently enough to accomplish the desired result.

The proof of a new treatment lies in testing it by such an instrument and by no other means of treatment, and so far as my experience is concerned I have not many cases to report in which this instrument alone has been used, but I have had a few, one of the most typical being Miss K., a lady over 40, who has been deaf for upwards of 20 years. Her bone conduction is best, she hears better in a noise, and her hearing distance for conversation is diminished to a loud voice at two or three feet, watch two inches with either ear, acumeter three feet, with an unmistakable diagnosis of chronic middle ear catarrh. She is an intelligent woman, and has been under treatment by good men in various parts of this country and in Europe. The nasal passages are free, she is a nose breather, the Eustachian tubes are open, and the drum membranes fairly normal in appearance and position, and during these twenty years she has had only the best of treatment, taking it from time to time and resting in the interval, as many of us are in the habit of advising. She has been under my care intermittently for observation and treatment for five years, and with other instruments for applying massage, vibration and electricity, with the result that she has remained in the same old condition, with no improvement, but with probably very gradual loss of hearing, so that she has taken up the study of lip reading to enable her to be less embarrassed in the presence of her friends. Such a case strikes me as particularly favorable for the testing of such an instrument as the massacon. She has been using it at her own home three times a day, one and a half minutes at a time, for something over five months. She has reported for observation only occasionally, to be sure that the Eustachian tubes were in good condition, and whenever she has taken a slight cold. Other than this the sole treatment has been the use of the massacon. Upon examination the other day I found that her hearing for the watch had doubled, that the left ear, which originally was the best, but which recently had been the worst ear, and in which the watch had decreased to contact, had improved materially; that an ordinary office clock was heard at a distance of four feet; that the acumeter was heard at ten feet. Ordinary conversation anywhere in the room was easily understood; that her friends noted the improve-

ment, and that she herself was much less dependent upon her lip reading.

Three months after the above report she has more than doubled the hearing distance for the watch, clock and spoken words over the last report, so that now she even gets a fair amount of the spoken words at church and the theatre, hears the clock in my office at ten feet distance and spoken words across the room, and all of this after the best of treatment by the best of men in all countries, without any appreciable effect. Her progress is entirely satisfactory to her physician and to herself.

I could report a number of other cases where the results have not been so marked, but which are fairly satisfactory, but time has not elapsed sufficiently to prove them. I had one case of mixed middle and internal ear disease that was aggravated by the treatment, as such cases are by any form of massage.

I have been in correspondence with a number of physicians who have used the instrument and patients who have purchased it, and although all do not give flattering reports, there are enough of them to prove that it has a certain sphere of usefulness.

The following remarks follow Dr. Fellows's paper:

I am not paid by the company to advertise their instrument and receive no commission for it, but I took it up because I was at the end of my rope. In using the Stevenson instrument in our office it is hard to get our patients to come oftener than three times a week; other will not come oftener than three times a year, but expect results. An instrument that can be bought and taken home, to my mind, is an advantage. If massage is required the patient can use it three times a day. They will use it because when once paid for they have it and can get at it. I have ten or fifteen patients who have the instrument and are using it, and many are reporting results satisfactory to themselves; others are still in doubt as to whether the treatment is beneficial or not. The instrument is before you, a small box weighing two or three pounds. It can be carried around and run by connecting it with an electric light or an ordinary dry cell battery. One and one-half minutes is long enough, and two or three times a day is often enough so far as frequency is concerned. Many patients notice an aggravation immediately after the treatment, others notice no aggravation; some get immediate relief.

While I am speaking of it, and before I get behind you, I will speak of the accousticon, the accompaniment of the massacon, for magnifying the sound. This instrument connected with the storage battery is supposed to go under the vest or in the pocket. The hearing piece is put on the vest or under the waist, if a lady, and everything is out of sight. The sounds are magnified so that when the ear piece is put on the bat-

tery is in working order. To any of us who have normal hearing it magnifies the sound so it is disagreeable. To anyone who is deaf it magnifies so they can hear. The sound is magnified five or six times, and the instrument can be carried to church or theatre.

I have a patient who has been deaf for forty years, who was so delighted with the massacon she purchased not only the massacon but also the accousticon, and has gone to Europe. What the result will be I do not know. She is perfectly delighted with the first week.

DISCUSSION.

Dr. Chas. H. Helfrich, M. D.: I do not use the massacon, therefore cannot testify as to the good results spoken of in the paper. The inventor's claim for his instruments, however, are open to some discussion. He claims other massage instruments simply move the chain of bones en masse. I believe this is partly true and accounts partly for our failure to benefit a larger percentage of cases. But is the massacon any more capable of producing movements of the individual joints? I doubt it. Mr. Hutchinson says: "It differs from other massage apparatus in that the sound therefrom is of sharp, saw-tooth characteristic, which has the effect of traversing the molecular structure of the ossicles." This sounds very catchy but does it explain why the motion imparted to the ossicles is not en masse? To my mind the intense sharp sounds are not an improvement, but on the contrary, may be an element of danger for the reason that the too frequent and long continued use of the instrument has a tendency to create trouble in the labyrinth. I refer particularly to the cases who provide themselves with the instrument and use it without consulting a physician. I have seen such a case whose hearing grew worse after a long continued misuse of the instrument from extension to the labyrinth.

His claim that the maximum movement of the drum produced by the massacon does not exceed that of a normal drum when performing its natural function is probably true, but is there any harm in somewhat exceeding this limit? I doubt it. Where adhesions of the drum to the inner tympanic wall exist it is essentially to exceed this limit in order to tear them. The massacon certainly would hardly phase them. The Wappler machine can be controlled so that the excursions of the drum are not excessive, and as it is practically noiseless, I would say it was the better instrument.

E. D. Brooks, M. D.: The representative showed me the instrument some months ago, and after looking the matter over thoroughly, I said to him: "I have three or four instruments in my office, and I think all of them combined or any one of them, for the conditions under which I would use them, do exactly the same thing that your instrument does. I use these every day, and do not need to buy such an instrument as that."

George W. McDowell, M. D.: I looked into the massacon when it was under another name and have not examined it since. I do not see that there is any material change except its name. It is simply the adaptation of the faradic current to a telephone receiver, and if we wish to prescribe this sort of treatment to our patients they can buy a faradic battery and telephone connection, and for a few dollars get the same results as from the massacon. I think the statements made by the manufacturers and promoters of this instrument are altogether too broad. I have no doubt that this instrument will help some caess. I have found some cases where the use of the telephone and faradic coil relieved the tinnitus very quickly.

I cannot see, as a society, why we should endorse an instrument of this kind on the ethical side. This is being advertised in magazines all over the country as a "cure-all" for deafness. I do not believe it is a "cure-all" in the vast majority of cases. There are some cases that will be improved by the form of massage that we get from this form of instrument, but it is not our business to assist the sale of patented instruments of this sort. The results obtained by an instrument of this sort are precisely the same as those by Dr. Houghton's instrument.

Thomas M. Stewart, M. D.: I think this little instrument with the accousticon has a value. Whether we want to prescribe it because it is advertised or not is a matter which will have to receive consideration by the physician; but there are so many people that are deaf and who cannot be benefited, that if they can be helped by this instrument, it is like the prescription of glasses to a person with dull sight. As I sat here, Dr. Fellows handed the instrument to me, and while Dr. Taylor was reading the paper, pushed the auricle over the auditory canal. I should have been a little further away; it was a little too loud, although at this distance the sound was all right, but it hurt my ear. So I think it has a value. At any rate, anything that Dr. Fellows brings here and has tried and received some benefit from I am certainly interested in, because we are all trying to relieve our cases.

Knowing this subject would come up, I brought a little instrument that I have not anything to do with excepting perhaps to use it in a particular way. This is called Weaver's vibrator, I believe. It is nothing more nor less than a little wheel that is thrown into rapid revolution by the compressed air tube being pressed into this funnel opening. It vibrates very rapidly. This, of course, is simply a catheter passed into the Eustachian tube, and according to the speed you wish to have is regulated by this little screw and controlled with the cut-off. You can vibrate the middle ear from the inside, and this has given me every bit as good, and I think better results, than any of the vibrators I have ever used. I have had all of the vibrators that have ever been put upon the market, and the different processes involved. I began with the phonograph, and changed when the vibro-phone, vibritite, etc., came on the market. I had used Dr. Wilson's instrument that he exhibited at one of our meetings in Washington, I believe, and I got good results

from that, but I think this instrument is capable of doing the work much better. It is nothing more or less than a little wheel turned rapidly by the current of compressed air. Of course, if you have a compressed air cylinder with an electric pump, you can always have compressed air on hand, and can have as little or much pressure as you need; my instrument is the new model electric air compressor, made especially for my use, with the nebulizer bottles mounted on the cylinder, by the Varing Manufacturing Company, of Cincinnati.

Wm. R. King, M. D.: Just a moment, please. I am intensely interested in this subject of the massacon, especially since an agency has been established in Washington, and also prior to that from reading the wonderful things claimed for it. I have never used it myself, but two of my patients recently have purchased it, not through my advice or contrary to it either: but in one instance the lady whom I had not seen for a year wrote to me before purchasing it, asking if I thought it would do any harm, saying she was willing to take all other chances. I told her I thought it would not do any harm, and she secured it and displayed it later before me and asked me to test her hearing and compare it with the last record I had, about one year old. I found she was a trifle less deaf than at last test. She was improving while under former treatment, Wappler massage, some faradic electricity, and, of course, the usual local measures for the Eustachian tube, throat, nose, etc. She was improving under that line of treatment, but how far that continued I do not know.

Another patient, a woman about sixty years of age, who has been quite deaf since girlhood, and has been and is still suffering excruciatingly with tinnitus. She cares very little about the hearing—I mean measurably very little as compared with the agony of the nervous conditions produced by the tinnitus. She purchased the instrument, not through my advice, but with my permission; she has been aggravated unquestionably, and continues to be aggravated, though she has had the instrument three months. She has been advised by the company to stop the use of it temporarily and then to resume it. She does not get better for stopping it, but gets worse every time she undertakes to use it. Whether that aggravation will cease and she will receive the benefit which has been reported by the inventor I cannot say; she has had it three or four months, and has been very much aggarvated.

Regarding effect upon the ear and tinnitus, I had a little talk with Dr. Shearer coming up on the train, and I would like to hear a few words from him.

Thomas L. Shearer, M. D.: During the past winter I carefully selected three cases of deafness which gave the use of the massacon a very fair trial. In addition to this form of treatment I also watched closely the condition of the throat and nose, keeping them in as good shape as possible. The patients in all of these instances were compelled to discontinue the massacon; aggravation of deafness, tinnitus, and even evidence of shock to the auditory nerve resulted, and finally I became

alarmed at the condition. In all of these cases the mildest form of treatment was followed and the patients were not allowed to use the instrument except under my immediate observation, for I consider it most injudicious to place such an instrument in the hands of any person to use at home. The aggravation of deafness was progressive, increasing gradually and positively.

Wm. R. King, M. D.: I would like to ask if the doctor knew of any apparent effect produced upon the auditory nerve? Was it a decidedly mechanical deafness when treatment with the massacon was begun.

Thomas L. Shearer, M. D.: What I observed was that the hearing both for the whispered voice and the spoken loud voice was gradually diminished, requiring a much louder tone to attract the attention of the patient. Tinnitus, even when not previously present, was also produced, both in moderate and in violent degree.

John L. Moffat, M. D.: I do not like the sharp tone, and I would be afraid to have a patient use a massage instrument at home almost as much as an electric battery. I never let a patient use an electric battery at home except to continue my office treatment. One point in the massacon which might be good in some cases is limiting the amplitude of vibration. Could we not get that effect by introducing a diaphragm in our other apparatus?

Thomas M. Stewart, M. D.: There is no danger of too much air pressure if you regulate the pressure by opening the valve, then control it by the cut-off, and with the auscultation tube you can tell what you are doing.

John L. Moffat, M. D.: I practice internal massage through the Eustachian tube without the catheter; the patient whistles, swallows, repeats "kinikinik" or holds the swallowing attitude of the pharynx. If we should lacerate tissue with the catheter we would get a distressing or even an alarmingly dangerous emphysema.

Thomas M. Stewart, M. D.: In a constricted tube this method will not do until you have opened the Eustachian tube by electrolysis or something of that kind.

Joseph H. Ball, M. D.: Speaking of internal massage in the Eustachian tube, during the last few months I have been experimenting with the Globe nebulizer and compressed air vibrator that Dr. Dunlap has recently put out. This hammer or vibrator is placed on top of the valve that regulates the exhaust from the storage chamber in the nebulizer, and in this way interrupts the current of air from the nebulizer, which is introduced into the nose and by swallowing, or if necessary in some cases by introducing the Eustachian catheter, a marked vibration of the middle ear and tube is produced. It can be regulated to almost any degree of vibration desired. I am not prepared to say what the results are because I have not continued my experiments long enough with it; but so far as internal massage is concerned I think this instrument equal to any now in use.

The President: Is there any further discussion? If not, I would

like to be permitted, from the chair, to report that three of my patients have used the massacon for six or eight months, not on my prescription, but they purchased the instruments through the recommendation of friends. In two of those cases I have had the good fortune to accurately measure their hearing with several forms of tests and to keep track of them regularly every two or three weeks during the whole winter, and there has not one of the three cases shown the slightest improvement in hearing, nor have they shown any decrease in tinnitus, which was very distressing in two of them. These cases certainly have not been benefited; nor have I heard of one where the person knew about the hearing in which the massacon has been of the slightest use.

C. Gurnee Fellows, M. D.: It is not often that I am embarrassed, Mr. President, but I am today, because if it is any worse to talk about the massacon than about some new ophthalmoscope, I would like the paper and proceedings to be refused publication. But I cannot understand why it is different. I have a Stevens for sale, and will sell it very cheap. I brought this to the Society to show to the members who have not seen it and have not patented it.. Dr. McDowell says he can get one up for $3.75, but he has *not* gotten it up. But the point is if this instrument will help one of my patients it is worth $50. This instrument is made and is on the market and adjustable in key and vibration and easily controlled, and is for sale, and I do not care whether it costs fifty cents or fifty dollars, the patient pays for it. I reported one case; I am perfectly satisfied that case is better. She has spent five thousand dollars previously without results, and was perfectly willing to buy this instrument. There is a case in town employed by an intimate friend of mine, which was perfectly hopeless and given up, and the man was perfectly cured by this instrument. I have had the Wappler instrument choked down my throat for fifteen years by the New York doctors, and this is a New York instrument that I am trying to put down your throats.

Now, before I leave the floor, I would like an expression of opinion as to the publication of this paper, or any portion of it, and the discussion. I repeat, I am decidedly embarrassed.

John L. Moffat, M. D.: I move it be published. Of course, I had no intention of criticising the introduction and naming of the massacon any more than of any surgical instrument of my own or any one else's devising.

C. Gurnee Fellows, M. D.: I may be peculiar in my methods of doing business, but if I find I cannot help a patient, I do not want to take the cost of three treatments a week from him indefinitely as an experiment. In such cases, if they buy an instrument like this and take it home, they spend but a small sum of money, and after using it a few months can easily decide whether they are better or not. If they are, the money has not been idly spent, and if not, they can throw it away or give it to their neighbor, who may be benefited by it.

NON-OPERATIVE TREATMENT OF MASTOIDITIS.

BY FREDERICK H. COLBURN, M. D.,

Boston, Mass.

THE title of this paper is not intended to convey the impression that the writer advocates non-operative treatment in all cases of mastoid inflammation, far from it. Neither does he agree with, nor does he favor the policy which seems to be carried out in some clinics (*i. e.*, to operate on a patient as soon as a diagnosis of mastoiditis is made). A happy medium seems to be the proper ground to take, for there are cases, selected cases, if you please, which are amenable to treatment without operation. In a considerable number of cases conservative treatment is a safe and advisable procedure. Conservatism here means anything short of mastoid operation (*i. e.*, external applications, internal remedies, incision of the drum, etc.).

Non-operative treatment, to be of avail, must be instituted early before necrotic changes have taken place within the mastoid or tympanum.

In a case of acute mastoiditis we have all the symptoms of an acute inflammation of the middle ear, followed by a rapid extension to and involvement of the mastoid antrum and cells. There is throbbing frontal headache, some fever, patient nervous and unable to sleep on account of the pain. Throbbing pain in the ear with occasional lancinating pains extending to the temple and mastoid. Tympanic memberane, if intact, is reddened, inflamed, thickened, œdematous and bulging, exceedingly sensitive to touch. Mastoid sensitive to pressure, especially deep pressure, usually at first more marked over the antrum, then extending to the apex.

In a case as above described, the first procedure is to evacute the tympanum of the fluid within by a free semi-lunar incision of the bulging tympanic membrane. If the superior wall be sagging that portion should also be incised. Cold applications are then in order and should be used for twelve hours or more, according to the severity of the case, in an attempt to abort the disease. The Leiter's ear coil seems to be the most practical means of applying a uniform degree of cold to the mastoid. This should remain in place for twelve hours, then removed

for two or three to permit the resumption of circulation in the chilled area before examination. This will allow the benumbing sensation caused by the cold to disappear and does not mask the symptoms.

The canal is thoroughly cleansed with sterile absorbent cotton and dioxide of hydrogen or other reliable antiseptic.

Hot sterile irrigations of distilled water may be applied for ten minutes at a time at intervals (from one hour to four or five hours), the frequency of which depends on the intensity of the symptoms.

The necessity of keeping the incision open until the discharge ceases to form must be emphasized. It is not sufficient to make the incision in the membrane and then permit it to take its own course, for there is a tendency for the drum to heal spontaneously; therefore, we must be on hand with the paracentesis knife, and if necessary incise several times. Free action of the bowels in these cases must be insisted upon.

Medicinal treatment goes hand-in-hand with the local treatment, and in the mind of the writer, it plays no small part in the cure of these cases.

In the early stages perhaps the most frequently indicated remedy is *Belladonna.* Here we have the characteristic flushed face, throbbing pain in the ear asociated usually with frontal headache of the same nature, pupils dilated, and eyes somewhat sensitive to light, patient drowsy but unable to sleep for the pain. Temperature may range from 101° to 104°, or even a little higher. Discharge from the ear usually sero-sanguinous and copious.

Ferrum phosphoricum resembles *Belladonna,* but has for a keynote that peculiar hammering which accompanies each pulsation with a distinct blow and frequently with a pain.

Capsicum is highly recommended and has proven of value in a good number of cases. This comes at a later stage than *Belladonna.* There is a tenderness and pain in the mastoid. Aural discharge inclined to be a little thicker and more yellowish, of a purulent character.

As the case progresses we find *Hepar sulphur, Pulsatilla, Mercurius solubilis, Silicea* and *Kali muriaticum* of especial value.

The report of a few cases may not be out of place here:

Case One. Miss P., æt. 27 years. Tonsillitis for one week. Three days ago pain began in left ear, increasing rapidly. Profuse discharge on the following day. Slight tenderness below the lobule for three days. No pain in the mastoid until the day before I first saw her, on March 1, 1901. Condition at that time was as follows:

Tonsils enlarged and inflamed on both sides. Profuse discharge from left ear. Slight bulging of the tympanic membrane in the postero-superior quadrant. Mastoid tenderness upon both light and deep pressure from antrum to tip and extending backward over the region of the sinus and below in the soft parts of the neck. Cords of the neck stiff and tender. Darting pains from mastoid upward and forward to the temple. Sleepless for several nights. Frontal headache and dilated pupils. ℞. *Belladonna* 4x, two hours. Leiter's coil with ice water was applied at once and hot irrigations of sterile water instituted for ten minutes in every two hours. March 2d, had a fairly comfortable night. Tenderness still marked over mastoid antrum and cells, but less severe than on the night previous. Bulging portion of the drum incised. Cold coil again applied and hot irrigations continued. Temperature, 100¾°; pulse, 84. ℞. *Capsicum* 4x, two hours.

March 3d, tenderness diminishing, only an ocasional pain in ear or mastoid. Slept well. Discharge free. Stiffness of cords of neck gone. Temperature, 100¼°. Cold coil continued at night.

March 5th, headache gone. Mastoid tender only at the tip, and very slight. Coil discontinued. March 9th, discharge has ceased. HDLw. = O, = $^{1}/_{50}$ after light massage with Siegle's otoscope. April 10th, HDLw. = $^{34}/_{50}$ = $^{49}/_{50}$ after inflation by Politzer's method. In his case convalescence was marred only by a series of furuncles in the canal.

Case Two. Mr. M. W. S., æt. 49 years. For four days previous to my seeing him patient had been suffering with an acute catarrhal condition of the left middle ear with humming and buzzing for three days. Neuralgic pains shooting to throat and teeth. March 26th, throbbing headache. Upper anterior quadrant of drum inflamed and malleus injected. Mastoid tender on deep pressure at the tip. ℞. *Belladonna* 3x, two hours, and cold coil. March 27th, mastoid still tender over the lower portion. Throbbing in ear and side of head. Feeling of weakness and occasional vertigo. Had a restless night with little sleep. Temperature, 101½°; pulse, 85. Drum bulging. Membrane incised and cold coil replaced. ℞. continued. March 28th, ear discharging profusely a thin sero-purulent fluid. Mastoid in general improved but tenderness remains at the tip. Muscles of the neck sore and stiff. On account of aggravation of the neuralgic pains in the jaw the coil was not continued during the past twenty-four hours. March 30th, patient sent to the hospital for proper nursing, which he could not get at home. Drum again incised, cold coil applied and hot irrigations instituted for ten minutes out of every two hours during the night. ℞. *Capsicum* 4x, two hours. April 1st, membrane still bulging, pain in the ear with but slight discharge. Membrane again incised. Hot irrigations continued at two hour intervals during the day and three during the night. ℞. *Pulsatilla* 3x, two hours.

April 3d, tenderness less marked over the mastoid and general improvement in condition of patient. April 5th, improvement continues, mastoid very much less sensitive, discharge profuse and clearer in

character. ℞. *Mercurious solubilis* 3x, qid. April 7th, tenderness practically gone. No pain. Discharge thin and clear. April 10th, no discharge. HDLw. = $^{3}/_{50}$ = $^{9}/_{50}$ after inflation. ℞. *Kali muriaticum* 3x, qid. From this time on improvement was steady, although as in the previous case furunculosis of the canal lent to the discomfort of the patient. May 10th, HDLw. = $^{40}/_{50}$ = $^{54}/_{50}$ after an easy inflation.

In the above cases the temperature never rose above 101½°, at least not after the patients came under my observation. This condition of furunculosis has been peculiar to these two cases in my experience, and it would be of interest to know if others have found the same sequelæ. This may be accounted for by the prolonged irrigations, which would of necessity macerate the cutaneous lining of the external canal and allow infection from the purulent discharge of the middle ear. Another possibility is the infection of the small glands of the canal through the lymphatics.

As was said at the outset, this is not a method suitable for all cases of mastoiditis, but in from fifteen to twenty per cent. of the acute cases it is satisfactory treatment.

DISCUSSION.

Howard P. Bellows, M. D.: In regard to this paper of Dr. Colburn's I will say that it tallies almost throughout with my ideas of such cases. Dr. Colburn is by no means a timid man. The number of operations which he performs at the Massachusetts Homœopathic Hospital demonstrates that. He is a conservative man, however, and I think a most careful man in his specialty. There are two extremes to be avoided by us. There is an extreme position that as soon as there is a reasonable excuse for operating the operation should be done. There are quite a good many men who seem to work upon that principle. They are often young, enthusiastic men, and they perform a great many operations which are not necessary. There is the other extreme, the man who never operates if he can possibly avoid it. He, of the two, is the greater danger. To observe the mean, the "*goldene mittel strasse,*" that is the point. A man should follow conservative methods so far as he can do it with absolutely safety. When he sees an operation is required he should be able and willing to go right ahead and perform it. The great question you see, after all, is when does the operation become necessary, or when is it so much more desirable by reason of shortening the course of sickness or preserving the hearing that it would better be done?

There are at least three questions that one can ask one's self in this connection. The first is, how recent is the inflammation? and is it a chronic case? We may have an acute case in which the inflammation

may run high, all the symptoms are prominent, but it has lasted only one, two or three days. We can fight that case if we want to, because very few cases advance to the danger point in that length of time; very few go on so soon to any very extensive tissue changes. We must remember there are cases which do. We have to be on our guard, but as a rule, that is not the case. If, however, it is not an acute case but a chronic case the danger is much greater; we must be much more wary now. Often twenty-four to forty-eight hours of violent inflammation in a chronic case may put the patient in a degree of jeopardy which would not be reached in a week or ten days in an acute case; so that must be kept in mind.

Another question is the quantity of the discharge. Is it very profuse? Can it be accounted for by the space from which the discharge is supposed to come? Now, from the antrum, from the aditus and from the attic space there is often a very profuse discharge. It is almost analogous in some cases to the acute discharge which comes in coryza. It seems as if a man would blow his brains out upon his handkerchief; there is something analogous to that. In those cases in which the discharge is so very profuse and where there is very rapid reformation of secretion we may look for tissue changes very much more quickly than in cases where the whole activity and amount of secretion can be explained by the tympanic space alone, without reference to the antrum or cells. So one must take into account the quantity of secretion and give to it considerable importance.

The quality of the discharge is also to be considered. There is one certain kind of discharge which I have particularly come to dread. It is a slightly greenish, creamy, thick, heavy discharge. I do not like it. I have seen too many of those cases come to operation after fighting it along and thinking they would recover without .

There is another question: Is the improvement which is made reasonably permanent and progressive, or is there constant relapsing? We put on the coil and get marked improvement; the tenderness is decidedly lessened; the parts improve in appearance; the temperature is doing nicely; we remove the coil to make our position sure, but in twelve hours the patient is back again. Perhaps if it is still very recent you give the coil another chance; you get again very much the same results, but after giving the case a chance to stand alone it once more falls away. It does not show the element of permanency. Those are cases in which it becomes more and more probable that an operation will eventually be necessary, and if that is the case it is better to prepare the patient and make the operation without further loss of time.

There is a proceedure which is very useful in cases of this nature, and that is to make sure what coccus you are dealing with. In those cases which are very slow and unsatisfactory in their progress, find out just what variety is present. If it is the staphylococcus and there are no immediate symptoms of danger, you may fight it a long time. If it is the pneumococcus you cannot feel quite so safe in prolonging your ex-

periment, but may still do it a little longer. If it is the streptococcus, in almost every case you would better regard it as a foregone conclusion that you will have to make arrangements for operation and go ahead. Those cases almost invariably, sooner or later, will come to operation. So with that coccus in cases that are unsatisfactory in progress, it is the more important to operate at once.

Another point is the warning not to be deceived by the absence of local tenderness. There are exceptional cases where one may be so misled. I have operated myself on cases where under a shell, externally, I have found the greatest destruction of perfectly normal osseous tissue, tending toward the digastric fossa, or meninges, or sinus, and yet deeper, showing little or no tenderness upon pressure. In such cases there may be also scarcely any rise of temperature which may not be accounted for by some slight constipation or something of that kind which seems amply to explain it. Do not be guided, therefore, by the temperature in determining whether an operation is necessary or not. Especially do not be lulled into a false security by the persistence of a low temperature. I mean by low, a normal temperature.

Herbert W. Hoyt, M. D.: I would like to ask Dr. Bellows if he has seen cases of streptococcus infection cured without operation.

Howard P. Bellows, M. D.: I cannot say that I have, because I am speaking within a rather short limit of time. It is not many years that we have had these positive reports from the pathologists. During this time, since we have had such reports, I cannot now recall that I have seen any such streptococcus cases cured without finally coming to operation.

John L. Moffat, M. D.: Has not Dr. Bellows found that greenish-yellow discharge relieved with *Pulsatilla* or *Natrum sulphuricum?*

Nothing has been said about injecting the middle ear with Formalin. Have any of those here seen harm from such injection? I have found it one of my best local remedies when the attic is suppurating.

The paper spoke of one of the indications for *Ferrum phosphoricum* a peculiar hammering; that I always associated with *Glonoin.* I have used *Ferrum phosphoricum* for many years; am very fond of it, but do not recall the hammering pulsation in connection with it. Has any one else had that indication for *Ferrum phosphoricum,* that peculiar hammering?

Howard P. Bellows, M. D.: As to that discharge, Dr. Moffat, I was not referring to the bland, greenish mucus discharges of *Pulsatilla,* which that remedy meets so satisfactorily, but to the thicker, more whitish and pappy discharge, not so distinctly green as that of *Pulsatilla;* a greenish, pappy and much heavier discharge with much larger pus admixture than *Pulsatilla;* in that discharge I cannot see that I have seen any benefit from *Pulsatilla* or from any other remedy.

As to the hammering in *Ferrum phosphoricum,* if you will take that as one of the indications you will be more than pleased. I think it is one of the keynotes for that remedy in aural conditions. I have even

given it for such sensations accompanying a congested state of the semicircular canals.

Edward B. Hooker, M. D.: I am in general practice, and the nose, throat and ear are somewhat of a side issue with me; therefore, my experience in certain diseases is of far less value than that of most of you gentlemen who devote yourselves exclusively to these organs. On the other hand, being in general practice, I have the opportunity to see middle ear inflammation and mastoid disease following cases of grippe from the beginning to the end. During the past winter I had quite a number of cases of mastoid inflammation, and they were controlled largely by the means indicated in this paper—cold applications, *Pulsatilla, Mercurius* and *Capsicum*. I do not know why *Capsicum* should have any power over inflammation of the mastoid cells, but it is just as certain that it has such power as there is any certainty in therapeutics. I have not had examinations of the pus made, but am very glad to get that point from Dr. Bellows. If we find the streptococus be more radical and have an operation earlier. But certainly we can control a large percentage of our cases of mastoid inflammation by these remedies with cold applications, and the most important or very important, a free incision of the ear drumhead. If there is anything that is interesting in nature under pathological conditions it is the difficulty that the system has of taking care of pus when it is in a closed cavity, and the ease with which nature takes care of pus if there be a free opening from that cavity. Take an abscess in other regions. If you give a free vent I am convinced in many cases it is of little use to wash with antiseptics. Give nature a free opening and she will take care of those things herself. Shut them up and she cannot do so. I thoroughly believe in our ability to take care of quite a large per cent. of these cases without operation.

George W. McDowell, M. D.: It seems to me that the most important matter we have to decide is when to operate. That is what makes a paper of this kind, in which I entirely concur, perhaps a dangerous paper to read in a general medical assembly, because we encourage men to treat cases with the hope of cure who are unable to decide when the time for internal and local treatment has passed. I believe that no case of mastoiditis should be treated, except in such a locality or place that it may be operated at once if necessary. Sometimes operation becomes necessary very suddenly, and I believe the operation should be performed as soon as it is evident that other measures are inadequate to control the suppuration. The important thing is to have a free opening of the drum membrane so as to afford free drainage from the attic. It is my experience that medical treatment has shown better results in children than in adults. One case brought to the hospital by Dr. Strong some time ago was a child five years of age, apparently well nourished and in general good health, with a large swelling over the mastoid. The ear was prominent, as it characteristically is in those cases, and there was a profuse discharge from the canal.

I put the patient to bed and arranged to have an operation in a day or two. The child was given *Capsicum* 3x, the ear was irrigated every two hours with electrozone 1 to 4, and cold applications made over the mastoid. At the end of forty-eight hours the improvement was manifest and the operation was delayed. We kept on delaying the operation until we were cheated out of the case, because the child recovered entirely. This does not happen often. I have a case now in the Ophthalmic hospital in which supuration followed a slight cold apparently and at the end of a week or ten days the homœopathic physician who treated the case advised an operation. The patient demured and went to an old school aurist, and he curiously enough treated the case a month with the result of stopping the discharge, healing the membrane and restoring its appearance practically to normal. During this time, however, pain developed back of the ear and in the region of the posterior triangle of the neck. It was diagnosed as neuralgia. It went on tor some time, the patient having a slight rise of temperature, perhaps not higher than 101°; I do not know that it went to 101°. Finally, the family physician, who was a homœopath, asked to have homœopathic counsel called in, and I was invited to see the case. I found a very hard condition over the sterno-cleido-mastoid muscle, but over the greater part of the mastoid very little senstiveness and no swelling. Just under the tip there was a slight point of sensitiveness on deep pressure, and I thought I could feel a cord-like swelling in the region of the jugular. I said I thought the best thing to do would be to operate that case, as nothing else had given relief. On uncovering the mastoid we found an apparently normal cortex, but on removing a very thin plate of bone we found an enormous destruction of tissue, taking in the whole of the mastoid, antrum and cells down to the tip, and moreover, a perforation on the inner side of the mastoid gave rise to deep abscesses in the neck, which were entirely covered by swelling and thickening of the sterno-cleido muscle. The man has been in bed two months and a half, hanging between life and death from the septic condition which had developed. He had an intercurrent attack of erysipelas, and, strange to say, it cleared up his preceding condition and helped him out of the trouble. That shows the other side of the picture. A case that was thought to be going on nicely and was in reality in need of operation from the beginning. The doctors agreed this was a matter of neuralgia; the external symptoms were referred back to an old tendency to neuralgia, and the elevation of temperature was not pathognomonic of mastoid involvement. The temperature ran very much higher after the mastoid was opened than it did before. He had all kinds of temperature.

John L. Moffat, M. D.: Was no blood count made?

George H. McDowell, M. D.: Nothing of that kind. I had the patient go to the operation at once, and none of the other men had that done, so far as I know.

E. D. Brooks, M. D.: I notice where the operation was done late it has been necessarily very extensive; the lateral sinus had to be opened,

the jugular even ligated, and a great deal of cutting necessitated by the late operation. Now I would like to know whether that would have occurred if the case had been operated early.

George W. McDowell, M. D.: To be sure, the case could not be cured by other means. When an operation is necessary the earlier the operation the better. But we never can be sure of that but always try other means, and so postpone the case as long as it can be postponed. Operation means confinement to bed for a certain number of weeks and disablement for more weeks, whereas local treatment and appropriate measures may bring about a cure in a comparatively short time, two or three weeks, and to balance these chances makes every operator hesitate.

A. Worrall Palmer, M. D.: I would like to ask the gentlemen who have had experience in ear trouble if these cases of acute mastoiditis which have been cured without operation are apt to recur. I know that question came up when I was studying in the New York Eye and Ear Infirmary; the surgeons there believed that where recurrent acute attacks had occurred a sclerosed condition of the mastoid would supervene and ultimately need operation. I refer to Drs. McKernon, Dench and Whiting, of New York, and I would like to know the experience of you gentlemen who have treated acute attacks without operative measures.

Edgar J. George, M. D.: I should like to make a few remarks about a case which has been brought to my mind I was called to see a case of profound symptoms due to chronic suppuration of the left ear, and when I saw the case there was every evidence of mastoiditis, so that I gave a very grave prognosis and insisted upon an operation. The patient would not consent, and shortly the discharge ceased, but subsequently re-established and the patient got well, and I supposed I had lost my reputation. But I have had quite a number of such cases. of what we usually think is acute mastoiditis, that were carried along by the usual method of treatment without operation except paracentesis, and I have found that the free drainage from incision of the drum membrane was very beneficial and that the symptoms subsided, but I have come to the conclusion that if there is deep seated infection within the mastoid cells no treatment but the mallet and chisel is efficient.

Thomas L. Shearer, M. D.: One point which I consider of practical importance is the effect of infections upon the blood. In very marked cases of infection one will usually find that not only are the polymorphonuclear leucocytes increased in number, as they are in any case of severe type of an inflammatory process, but that the *eosinophiles* are either much diminished in number or altogether absent. This point would be a strong indication for operation in mastoid disease. In other words, the eosinophiles diminish in proportion to the severity of the infection.

E. W. Beebe, M. D.: I wish to kindly take exception to the treatment of these cases, as cited by the author of this paper. Inflammation

of the middle ear is usually the result of an ordinary cold, and I prescribe for these cases as I do for any other affection which is the result of a cold; therefore, I do not look upon *Belladonna* as the remedy to be prescribed *first* in such cases. *Aconite* is more frequently the remedy to be selected in the beginning of an attack, and if it is prescribed, and the cases are cared for as when treating the results of colds in other portions of the body, by promoting prompt perspiration, the treatment is greatly simplified, and the patients rapidly restored to health. It matters but little how perspiration is produced if it be done promptly. *Aconite* helps to do this, so does *Gelsemium,* if given in appropriate doses, and prompt perspiration aborts these cases.

After *Aconite,* the remedy I have found most generally useful is *Mercurius solubilis,* and in an experience of nearly forty years, where this method of treatment has been instituted, I cannot recall a half dozen cases that went on to serious mastoid complications requiring surgical interference.

ANISOMETROPIA.

BY E. H. LINNELL, M. D.,

Norwich, Conn.

UNDER the title, "Anisometropia," I propose to discuss not only a difference in degree of the same variety of ametropia in the two eyes, but also a difference in kind, to which the term antimetropia is more accurate.

The former, a difference in the amount of hypermetropia or of myopia, accompanied or not with the same variety of astigmia, is more frequently met with than the latter, and does not present so many difficulties. In either case the problem is not to give the greatest amount of visual acuity to each individual eye, but to secure the most comfortable and satisfactory associated use of the two eyes.

No hard and fast rules can be laid down for the treatment of this class of cases. The most difficulty is experienced at the working distance, and each case must be studied carefully and individually. Success will depend largely upon the skill, experience and judgment of the oculist.

Some general rules may be formulated, and certain definite propositions are always to be considered.

All cases fall under one or other of the following classifications:

a. Where binocular vision exists.

b. Where one eye is used for distance and the other for near vision.

c. Where one eye only is always used.

The foregoing generalizations will be found applicable and suggestive in all the varied conditions which we meet in this class of cases. The kind and amount of use to which the eyes are subjected, and the amplitude and extent of accommodation, and the condition of the external muscles, will also influence our prescription.

In anisometropia with binocular vision the general rule is to correct the better eye and to give the same glass for the other, or to correct as much of its refractive error as will give the most satisfactory use at the required distance.

The working distance should be chosen in accordance with the power

of accommodation. This must necessarily be equal in each eye, hence the endeavor should be to give as clear a retinal image as practicable in the individual eyes at a given distance and with a definite amount of accommodation, selecting a suitable and comfortable working point. The capacity of the external muscles must also be considered, giving due regard to any existing heterophoria. To this end a judicious employment of prisms in combination with the correcting lenses is sometimes helpful.

It should be remembered that the better working eye is not always the one with most visual acuity, but usually the one with the least amount of refractive error, especially of astigmia. I have found that I can, as a rule, correct the whole amount of astigmia in each eye. I do this first, before the spherical correction. The direction of the axes of the lenses must occasionally be altered to give ease and comfort, even at the sacrifice of some distinctness of vision.

Cases occur in sensitive individuals with large variation in the amount of astigmia, where only a portion of the error can be corrected in the poorer eye. This is more frequently the case in the correction of spherical aberration.

When considerable difference in refraction, either spherical or astigmatic, exists in the individual eyes, there may still be binocular vision. The patient from long experience has become accustomed to the dissimilar and somewhat blurred retinal images, and the more distinct and larger images resulting from complete correction of the refraction of each eye is confusing, and causes nervous and asthenopic symptoms which cannot be tolerated.

In hypermetropia it is not advisable, usually, to make a difference of more than one diopter in the strength of the lenses, although many individual peculiarities are met wtih.

In myopia where there is a difference of two or three diopters and good vision in each eye, it may often be entirely corrected in young persons with good accommodation. After the age of thirty, however, the whole of the error in the more myopic eye can seldom be corrected.

As presbyopia develops, one may require a weak convex lens before one eye, and a weak concave lens before the other, and later, the presbyopia may entirely neutralize the myopia in one eye so that a plain and a convex lens may be prescribed.

In high degrees of anisometropia binocular vision is impossible and either one eye is used for distance and the other for near vision, or the

more ametropic eye becomes amblyopic and perhaps strabismus develops. The treatment of such conditions will be discussed later.

Antimetropia presents many interesting and difficult problems which tax one's skill and ingenuity.

Where there is ametropia in one eye and binocular vision is retrained, the hypermetropia, myopia or astigmia of the other is to be corrected in whole or in part according to the suggestions already mentioned.

The object, as previously stated, is to give easy and comfortable associated use of the two eyes rather than to secure the greatest possible acuity of vision of each eye separately.

Where one eye is hypermetropic and the other myopic, the rule is to correct as much of the hypermetropia and as little of the myopia as possible, and as much as possible of the astigmia in each eye. Where the vision of each is good, one will usually be used for distance and the other for near work.

Sometimes we may secure binocular vision at the working point when we cannot for distance. Good results are at times secured by over-correction of the hypermetropia producing a pseudo myopia equal to the real myopia of the fellow eyes, thus producing distinct retinal impressions in each eye at a given distance without any, or with an equal amount of accommodative effort. This can only be an exceptional procedure when the myopia is not of too high a degree. Otherwise the resulting retinal images will vary too much in size to be harmoniously united. The accommodation also must not be too active to be readily held in abeyance.

Where one eye is presbyopic and the other myopic, it is sometimes possible, by a suitable convex lens, to make the near point of this eye coincide with the far point of the myopic eye, and thus to secure some measure of associated use of them.

Where binocular vision is lost, and the sight of the more ametropic eye is deficient, we should endeavor to improve it by suitable exercise, combined, perhaps, with persistent employment of a mydriatic in the better eye, and whenever possible, to restore binocular vision. As much of the ametropia as is practical is then to be corrected.

Sometimes binocular vision is lost without large difference between the refraction of the two eyes owing to muscular impairment or central defect. In the former case prisms or tenotomy may be helpful.

Where one eye only is used for all distances, there is obviously noth-

ing to do but to give such correction to this eye as will secure its most efficient service.

I have purposely refrained from quoting illustrative cases from my own records as it would render the paper to long. The subject is one of practical interest, and it is hoped my general remarks will serve to elicit profitable discussion.

DISCUSSION.

John L. Moffat, M. D.: These are the most difficult refractive cases we are apt to meet, and require individualization and judgment. I emphasize the important element of the problem, i. e., the relative size of the images in the two eyes as well as their relative distinctness. Not only the occcupation and age of the patient but his idiosyncracy and his practical age, that is, the age of his tissues, must be taken into consideration.

Prisms are dangerous, they should be changed, weakened from time to time, and carefully watched; but too many patients neglect their eyes as soon as they feel some relief.

E. D. Brooks, M. D.: A recent experience I have had along this line was quite annoying to me. I do not know how the patient felt. I had fitted the patient with glasses some two or three years ago. One eye, the right, had plus astigmia, and the other a minus astigmia, the axes being opposite; the astigmia for the right eye was, I think, plus one-half diopeter axis 90 degrees, and the left eye was minus 2¼ D. C. with axis 180 degrees. I fitted the two eyes to the best correction that I could give him for each individual eye, and recently he came to me again and said that he had not been able to wear his glasses; he tried and they gave him furious headaches, so he had not been able to wear them. I had learned something in the meantime, and so I left the right eye with the best correction I could give him, while I fully corrected the minus astigmia of the left eye and added plus spheres to the myopic eye until he could see the best with the two eyes together. That was two or three weeks ago. He has since worn his glasses with satisfaction.

A Member: Was not that one element a difference between optical centers?

Dr. Brooks: Yes, sir; I think there was some such element there, but the difference was mainly in the size of the images in the two eyes.

George A. Shepard, M. D.: One source of discomfort when the glasses differ very much in strength is in the prismatic effect which follows when the visual lines fall below the center of the glasses. Hyperphoria is produced and discomfort follows. Not infrequently the discomfort which we lay to the unequal size of the images is simply due to the prismatic effect of the different strengths of glass.

J. Ivimey Dowling, M. D.: A little point, not particularly scientific but quite practical, which I have found useful in proving to amblyopic

patients the accuracy of the correction, is to place a given coin on a table and let them draw a picture of it without and then with the correction, and prove in that way that the image seen with the glasses, although of smaller size, is correct.

A. B. Norton, M. D.: One thing I would like to emphasize in Dr. Linnell's paper is the point to fit the glass which is easiest and most comfortable and satisfactory to the patient. Do not follow any other rule. These cases are the most difficult ones we have to adjust lenses for, and if you attempt to follow any rule you are going to get into trouble nine times out of ten; but use common sense and give the eyes the most comfortable glass; that is the keynote. I rarely attempt to give glasses for anisometropia to any age without examination under a cycloplegic; thorough examination under atropine. I do not believe in this half way method Dr. Brooks has advocated. I want to know the refraction correctly. I want to know what I have, and I always give the cycloplegic to get complete paralysis, and many times these anisometropic cases under the cycloplegic turn out not anisometropic.

INTRA-NASAL SARCOMA.

BY CHAS. H. HUBBARD, M. D.,

Chester, Pa.

SEPTEMBER, 1903, Miss T., aged 30 years, employed in a Philadelphia department store, presented the following symptoms:

Since three years ago nasal respiration has been greatly impaired, voice often weak and husky, pharynx dry, glazed and hypersensitive, calcareous deposit in the faucial tonsils, and at times an offensive odor from the nose or mouth. In February, 1903, the patient first noticed bleeding from the left nasal fossa with expectoration of bloody mucus and clots of blood. Blowing the nose not infrequently developed epistaxis. In March, 1903, she claims to have had an attack of "laryngitis" followed by nervous prostration."

However, notwithstanding treatment by recognized authority, a progressive aggravation of her symptoms persisted.

Naturally the patient is vivacious, happy, full of life and vigorous ambition. A ruddy complexion and the embodiment of good health. But within a few months' time she had degenerated into an apprehensive, erratic state, easily vexed and easily moved to tears. The face had lost much of its fullness, a pinched, anxious expression prevailed, and the florid skin had lost much of its ruddy glow. Now, pains had developed in the apex of the left intra-nasal chamber, extending to the left eye and cheek, with ocular and palpebral injection and increased lachrymation. Dysmenorrhœa of several years' standing weakened and harassed her. She complained of distress in the epigastric region with frequent attacks of intense pain in the stomach and bowels. Most kinds of food disagree, causing pain, nausea and eructation.

The patient has an abnormally small nose with correspondingly contracted nasal cavities. The right intra-nasal chamber was found to be practically obliterated, the inferior and middle turbinal bodies being hypertrophied and pressing firmly against the nasal septum, while a bony spur on the septum contributed to the non-respiratory function.

The left nasal fossa, though much occluded, afforded a moderate amount of nasal breathing under favorable conditions, but a marked œdematous infiltration into the soft structures nearby obliterated the turbinals.

Reasoning that the lesion probably existed in or was intimately related to the left nasal chamber, and recognizing the necessity of establishing nasal respiration through the stenosed right nasal fossa, I instituted operative measures on the 4th of September, 1903. The com-

plete removal of the inferior and middle turbinal bodies was effected, together with the spur on the septum. The parts healed kindly and free nasal respiration through that side has been successfully maintained. The patient complained that the pain in the left eye, extending to the supercilliary region and forehead, was growing worse. It was noticed that the viscid, bloody discharge from the nose was more profuse, excoriating and decidedly malodorous. On the 19th of September operative procedures were directed to the left intra-nasal chamber, where some active though unknown factor, with pernicious activity and possibly with malignant designs, seemed to be securely entrenched. Under local anæsthesia the inferior turbinal was exposed and its complete removal accomplished. A few days afterward, with the enlarged space to facilitate work, I discovered in the vault of the left nasal cavity, or, in other words, in the spheno-ethmoidal recess, a soft, dull-red, irregular, vascular mass, bleeding profusely and persistently from the slightest manipulation. The soft tissues were congested and hypertrophied, encroaching upon the calibre of the abnormally small nasal spaces. Under the action of cocain and adrenalin chloride, the growth was curetted away as thoroughly as possible. A throbbing artery, probably a branch of the ophthalmic, was in close communion with the neoplasm, and hence still further restricted one's operations.

The third day after extirpation of the foreign mass, it had largely reproduced itself. Its removal was again effected as carefully and perfectly as conditions would permit. And this shuttle-cock game, reforming and removing, was continued at intervals of three to five days for about four weeks. But the physical character of the growth changed considerably. It became much less vascular, lighter in color and tougher in consistency.

In the meantime I submitted portions of the removed mass to Dr. J. R. T. Gray, pathologist at the J. Lewis Crozer Homœopathic Hospital. He reported as a result of his examination: "Probably a large, round cell sarcoma, with the appearance of having recently assumed increased activity."

Soon afterward a consultation was had with Prof. I. G. Shallcross, M. D., of the Hahnemann Medical College of Philadelphia. Dr. Shallcross saw no reason to doubt the correctness of the diagnosis, and fully justified the treatment, and, on account of the danger and difficulty in operating, with the probability that some portion of the sarcoma might not be wholly removed, he considered the prognosis unfavorable. When one recognizes the intimate relationship existing between this neoplasm and the sphenoidal sinus, the posterior ethmoid cells, the orbit and the eye, the hazardous perplexities to be confronted will be appreciated. Considering the character of the growth and the many concomitant symptoms, the outlook was most unpromising.

At this interesting period I decided to stop all surgical interference, maintain cleanliness, and attempt to find and prescribe the much ridiculed "indicated remedy."

During the previous treatment several remedies had been given, but I was satisfied the true simillimum had not been found.

After long and careful study I concluded that *Arsenicum album* was the remedy, and it was prescribed in the third decimal potency. For nearly two weeks little or no change occurred, when a gradual cessation of the discharge was manifest, with a marked retrocession of the infiltrated tissues. Nasal respiration became freer, the voice clearer and stronger, and the pain extending from the nose to the eye was seldom experienced. The digestive disturbances were arrested, and the improvement in the patient's mental and physical condition was most gratifying. And so far as demonstrable the sarcoma failed to make further development, while moderate manipulation of the diseased area failed to excite hæmorrhage.

These encouraging results continued until the middle of February, when there was a re-establishment of the viscid, excoriating, slightly offensive discharge, sanguinous discharge, accompanied by pain and much sneezing. However, no redevelopment of the neoplasm could be discovered, but nasal respiration was not so free, due to swelling of the soft structures of the nasal fossa.

A reconsideration of the case determined me to suspend *Arsenicum* and give *Kreosote* 3x. Under the latter remedy the discharge and infiltrated nasal tissue was soon greatly diminished, and the patient expressed herself as feeling decidedly better. This flattering but deluisve state continued about four weeks, when, after a week's absence from observation, the patient presented herself with the statement that her "nose was bleeding all the time," and she was feeling much worse in every way. An examination revealed the re-establishment of the sarcomatous growth in its former habitat, and a return of the many distressing symptoms previously related. Accordingly I unsheathed my instruments of warfare, determined to make the slaughter as effective and thorough as existing conditions would warrant. It is possible I displayed more vigor and muscle than wisdom, for a more sanguinary conflict I never engaged in. All the fortitude of the patient and all the skill of the operator were nearly exhausted in the efforts to control the alarming hæmorrhage.

In the calm succeeding the storm, and as a result of a thorough reconsideration of the case, the discarded *Arsenicum* was restored to favor. And its administration has been continued up to the present time. Why its beneficial effects seemed to fail for awhile it is not easy to determine. However, notwithstanding the morbific process responsible for this neoplastic product cannot be said to be removed, it is assuredly under control, though the marked infiltration of the intranasal tissues is a most disturbing factor. But the fact remains that the sarcomatous gowth cannot now be found in the nasal fossa, or its presence diagnosed anywhere else, though it is within the domain of possibility that future developments may discover it vegetating in

an adjacent accessory cavity. But the patient's mental state and physical appearance at this time would seem to successfully combat the above hypothesis.

In connection with the treatment of this case, it might be pertinent to consider why the Roentgen rays should not be used. But the X-ray continues to be an unknown quantity with an uncertain action. And furthermore, of still more vital significance to this case, one needs to consider the location of this noxious neoplasm, its proximity to the accessory cavities, the eye and the brain, and one should hesitate a long time before resorting to so questionable a procedure.

DISCUSSION.

A. Worrall Palmer, M. D.: The case just reported by Dr. Hubbard is one of considerable interest in several points, and I, for one, wish to thank the doctor for such a practical paper.

The first point of interest is that upon the repeated operative interference first instituted, the growth "became much less vascular, lighter in color and tougher in consistency." As I recollect this is not customary, but usually the reformed tissue takes on rather the opposite characteristics.

The doctor makes the self criticism that "possibly I displayed more vigor and muscle than wisdom." It does not seem to me applicable because under the circumstances of the then present sizable recurrence after the previous frequent removals and the four months' interval or drug treatment, I think the average surgeon would, at least, I think I should have felt it necessary to resort to Rouge's operation or one of the other radical external operations upon the nares, and have endeavored to clean out the ethmoidal region, maxillary sinus and even the sphenoid if the hæmorrhage did not too greatly obstruct operation.

With the X-ray the doctor mentions I have had no experience in this region, but judging from the obstruction of the bones to these rays in this vicinity observed in examination of those cavities, I should think that the ray would not penetrate these cavities with sufficient therapeutic strength to be of any benefit.

The most interesting and instructive portion of the paper is the record of the apparent beneficial effort of the homœopathically prescribed remedy in a case of thoroughly diagnosed sarcoma.

Analyzing the time of the several different periods of treatment, we find that the first period of medical treatment following the quite thorough extirpation lasted about four months. Then there was a second thorough extirpation followed by about four months of medical treatment. After thorough removal of the neoplasm I think this period of inactivity is not very uncommon.

We do not wish the author to consider this as a criticism of his procedure, but we do wish to commend the course the writer has taken, and we would consider it a favor if he would give us the further record of this case next year, whether the course of treatment results favorably or otherwise.

It may not be amiss to tersely review some methods which have apparently been successful in this disease.

Dr. Sheedy, of Philadelphia, has reported two or three cases cured by local application of Chromic acid crude.

Another authority has used Lactic acid, 60 per cent., locally, and 25 per cent. by injection.

Another, I think, Dr. Glueitsman, of New York, the injection of Chioracetic acid with good results.

At the American Medical Association I recollect a discussion on this subject about three years ago in which a few of the speakers obtained beneficial results from the administration of Potassium iodide. Dr. Pynchon, of Chicago, had run it up in one case to 1200 grains per diem.

Finally, Coley's fluid, the toxin of erysipelas and bacillus prodigiosis has been employed apparently with good effect in many cases, although it is not held in as high a repute now as about five or six years ago.

While upon this subject would like to make another report of a case of angio-sarcoma, which some of the members may remember I reported to this Society four years ago as being treated with Coley's fluid. About the holidays a letter was received from this patient saying she was in her usual moderate good health; no return of any throat symptoms.

I recall no case on record where the sarcoma has been thoroughly diagnosed and treated with homœopathic medication with benefit. I think the trouble of a great many of our cases reported is they have not been as thorough in diagnosis as Dr. Hubbard.

Harry S. Weaver, M. D.: I would like to report a case of sarcoma located on the right side of the nasal septum. I removed the growth as carefully as I could and afterward thoroughly cauterized the resultant wound. The growth was examined by Prof. Hall, and pronounced a melanotic sarcoma. The operation was performed four and one-half years ago, and up to the present time the woman has remained perfectly well. Her internal remedies I do not know, but Iodide of potash was given in limited doses, but the treatment was chiefly surgical.

John L. Moffat, M. D.: Do I understand Dr. Hubbard to say he gave *Arsenicum* 3x, and that was the only strength in which he gave the remedy?

Charles H. Hubbard, M. D.: Yes, sir.

Dr. Moffat: I would suggest, if *Arsenicum* begins to lose effect, that he continually go higher in potency as long as he does not find any remedy better indicated, and not to fear going up to the highest potency. It cannot do any harm if he watches the patient. The 200th will possibly prove more curative.

Joseph F. Roe, M. D.: I think a good many of the members must have had some experience with sarcoma of the nasal cavities, and I am especially interested in these cases.

I have a case under observation now which is too new to report. The case is this. About two weeks ago a man came to me with a condi-

tion resembling hay fever. He said he had a growth on the inside of the nose that he wanted me to look at, and he would come in soon and have it removed. It was a small linear growth along the margin of the osseo-cartilaginous septum about one-fourth of an inch in width and one inch in length. I used a little adrenalin and sprays which gave but little relief, and two days later, noticing that it had grown to some extent, picked off a piece and sent it to Dr. Cochran, of Albany, for microscopical analysis. A few days later it was pronounced melanotic sarcoma, with a tendency to penetrate into the tissues. Not being satisfied with that I took another sample and sent it to Dr. Moore, of Cornell University, and asked him to freeze it and make a careful microscopical examination of it. He also pronounced it melanotic sarcoma with some giant cells. Dr. Moore has practically spent his life with the miscroscope. He also advised an operation at once, giving as his experience that those cases became dangerous unless operated upon very early.

Yesterday I removed every trace of the growth and cauterized the base thoroughly with the electro-cautery.

I shall be pleased to report the case at a later date, but at present, in the light of the unquestionable diagnosis, I would be grateful for any suggestions.

Charles H. Hubbard, M. D.: I went into the minutia and details somewhat in describing this case especially, as I seemed to get, in fact, did get good results from the *Arsenicum album.* Dr. Palmer takes a little exception to my statement that possibly I "exercised more vigor and muscle than wisdom." When we take into consideration the position of this neoplasm, its juxtaposition to the accessory sinuses, I think one would hesitate a long time before resorting to any of these heroic measures, and the results following the treatment, certainly, I think, warrant me in the course I took in this case. Besides, the hæmórrhage was so great, and I had so unfortunate an experience with it, that I also hesitated on that account to go in deeper or make my efforts any more heroic. There is very little written about sarcoma of the nasal cavities. The literature is very meagre, particularly the homœopathic, so that I had very little data to guide me in the selection of the remedy or in the operative procedure. I never gave a case more thorough attention, I think, than I did this. In regard to the use of higher potency, I am fully in accord with that suggestion, and I have determined, on going home, to either give this patient *Saccharum lactis* for a period, or go higher with my *Arsenicum album.* The patient expressed herself to me a few days before I left home, that she had not felt better in many years than she is feeling now; and if we were warranted in giving any credit to the homœopathic remedy we certainly are in this instance. We cannot always tell the reason of a fact but we can often see and determine its results. And so in this case, I feel much gratified in reporting it to you, and if at a future meeting, as has been suggested, I can report it further, I shall be delighted to do so.

MATERIA MEDICA SYMPOSIUM.

SEVEN MINUTE REPORT OF CASES CURED BY DRUG, HOMŒOPATHICALLY ADMINISTERED BUT NOT IN ALTERNATION AND WITHOUT ADJUVANT TREATMENT, OR IF USED, WHERE IT WAS NOT CHANGED AND DID NOT MODIFY THE CURE.

1. AGARICUS IN "A SENSE OF FULLNESS AS IF A LUMP WERE IN THE THROAT."

THOMAS M. STEWART, M. D.,

Cincinnati, Ohio.

A young dental student, a room-mate of one of the students of Pulte Medical College, complained of the following troublesome condition, viz.: "A sense of fullness, as if a lump were in the throat." There was a small spur on the septum in left meatus; nasal respiration was fair; hearing a little dull, and tinnitus was complained of occasionally. The pharynx and larynx were congested.

The patient had been under treatment for "catarrh of the throat," but the very troublesome sense of fullness continued to annoy him, so his homœopathic room-mate induced him to try similia.

The general condition of the patient was good; he said: "That the fullness was worse in cold or changeable weather, worse from exertion and lying down, better from cold applications and in open air. Expectoration of small, transparent lumps without much effort. Nevertheless, he had a sudden, convulsive coughing spell every morning; each attack of cough ended in a sneezing paroxysm."

Agaricus 200 was given, a dose night and morning. Two doses only

were prescribed. *Saccharum lactis* was given every four hours. In one week he reported much better, and in three weeks he reported himself as cured. He was seen occasionally during the winter, but the throat trouble was always O. K., as he expressed it.

DISCUSSION.

The President: Has any one else had any experience with *Agaricus* in a condition similar to this or anything else?

Elmer J. Bissell, M. D.: Do you mean a similar condition or any other condition?

The President: Any other condition.

Elmer J. Bissel, M. D.: It will help much in twitching of the lids, I know that.

J. W. Stitzel, M. D.: I had a patient come to me, a young girl about ten years of age, who at intervals would have a cough that always ended with a sneeze. I did not know what the remedy was at the time and looked it up and found it was *Agaricus*. *Agaricus* relieved the condition, and she never had any trouble since. The potency used was 3x. I used the No. 5 discs, three discs four or five times daily for a couple of weeks, and she never has had any trouble since taking the *Agaricus*. These attacks would last for months at a time when they came.

---

2. BROMIUM IN PTOSIS.

ELMER J. BISSELL, M. D.,

Rochester, N. Y.

A young lady, light complexioned, consulted me regarding a ptosis of the right eye. The palpebral fissure was diminished two-thirds, but in every other respect her eyes were normal. The ptosis came on gradually and had been permanent for one year. For months she had been under treatment for a chronic diarrhœa with no improvement. I elicited the following symptoms: Yellow, slimy diarrhœa, worse in the morning and after the slightest amount of food, flatulence with eructations and pain about the umbilicus like a thousand needles; a number of times a day wind was discharged from the rectum with a loud report. I prescribed *Bromine* 6x, a dose morning and evening. In five days she reported that the ptosis was improved, and she had only one stool a day. The remedy was continued every day for a week, at which time the diarrhœa and physometra were entirely relieved. Occasional doses

of *Bromine* were given for two months when the ptosis had completely disappeared. At the end of a year there was no return of any of the symptoms.

---

3. BRYONIA IN ACUTE INFLUENZA.

JOHN B. GARRISON, M. D.,

New York, N. Y.

Case. Mrs. M——, æt. 25; nervous temperament; *acute influenza.* Had been unable to endure the light of day since the day before; artificial light not quite so painful. Constant watery, excoriating discharge from the nose, and there was a tendency for the inflammation to go downward, the larynx and trachea becoming painful. Irritating cough which caused great pain along the trachea as if something were being torn loose. Very thirsty. Felt better when keeping quiet. Gave one dose of *Bryonia* 10,000 (Deschere), and a placebo prepared in water, with orders to take one teaspoonful every two hours. In one hour the photophobia began to be relieved, and in twenty-four hours was entirely gone, and the other symptoms were dispelled in twelve hours more. No other medicine or local application used.

---

4. CALCAREA CARBONICA IN EUSTACHIAN CATARRH.

GEORGE W. MCDOWELL, M. D.,

New York, N. Y.

Miss X—— complained of a stuffy feeling in head with some tinnitus and reduction of hearing. This condition had continued for a number of months with but slight change. Inflation was very poorly accomplished by the air bag and only imperfectly when the catheter was used, the resultinng sound heard through the auscultation tube indicating a stenosis of the canal.

The bougie was used with immediate benefit to all symptoms, and the patient was given *Mercurius dulcis* 3d for internal use. The patient was seen again in a few days when she reported the improvement as having lasted for about twenty-four hours, when the symptoms of ob-

struction all returned. This was repeated two or three times, the benefit resulting from treatment never lasting more than twenty-four hours. Finally, a careful examination of the patient's general condition, especially of her condition at the menstrual period, presented a characteristic calcarea condition. *Calcarea carbonica* 3x was prescribed and the same local treatment as before repeated. About a week later the patient reported entire relief from the symptoms of insufficient æration of tympanum, and Politzer's bag was sufficient to effect easy inflation of middle ear. She continued well for about a year, when the symptoms in a milder form recurred, as a result of a cold, soon passing away under same treatment as before.

---

5. CAPSICUM IN ACUTE MASTOIDITIS.

ALTON G. WARNER, M. D.,

Brooklyn, N. Y.

A Case. C. H., 9 years of age. History of acute otitis media sup. three months ago, was attended by the family physician. This discharge ceased after about two weeks, but hearing was not good and ear "felt queer" at times. The second attack began two weeks ago. Pain was severe for twenty-four hours, since then profuse discharge, head dull, "did not feel well."

May 1st patient seen by me for the first time. Had a great deal of pain the previous night. Auricle stands out from the head, great swelling over the mastoid region, which feels boggy, tenderness extreme. Meatus is filled with a thick discharge, which pours from a fair-sized perforation in the post-inf. portion of the drumhead. Some sagging of the superior wall of the canal. Temperature 101°, pulse 100. Patient was put to bed, heat applied by means of water bag, canal irrigated every three hours with boric acid solution; liquid diet ordered, and *Capsicum* 3 every two hours. Told the parents that I should probably operate the next day.

May 2d, temperature 98.6°, pulse 70; pain, swelling, tenderness and discharge diminished. Operation postponed; treatment continued.

May 3d, improvement continued.

May 6th, no tenderness or swelling, very little discharge, perforation closing.

May 9th, no discharge, perforation closed, no tenderness, hearing

normal. Has been perfectly well since this date.

I am firmly convinced that *Capsicum* saved this case from operation.

DISCUSSION.

The President: Recently I saw a patient who had had suppurative otitis for about two months, complicating a middle ear catarrh of long standing, as a sequela of the "grippe." He had had hardly any treatment of the ear, and I do not know as the physician's attention was called to it. The inner end of the canal up to about the isthmus was partially filled with granulation tissue; the mastoid was boggy, tender, and the auricle stood out from the head, with redness and tenderness extending down into the muscles of the neck and well up into the head. Part of the granulation was cleared out with a curette and *Capsicum* 3x given. The diminution of the tenderness was very marked in three days; almost all bagginess and tenderness being gone by the fourth day. The case went along very satisfactorily to a rapid recovery. There was a slight rise of temperature to 100° in the beginning, but it disappeared in three or four days.

Wm. E. Green, M. D.: I had a little experience last winter with *Capsicum*. I was called to see an acute attack of tenderness over the mastoid. The patient had been treated by an old school specialist, and had not improved, so he called in a homœopathic specialist, who went down that day to some neighboring town, and during his absence the patient was taken very severely with pains about the mastoid. I saw him about nine o'clock, and the symptoms of *Capsicum* were very pronounced. I prescribed *Capsicum* 3x, and he rested pretty well that night, and the next morning was so much better and had improved so much by the time I saw him later in the day that it was not necessary for me to see the case any more. All I prescribed was *Capsicum* 3x. He had been to an old school specialist and to a homœopathic specialist, but Capsicum had not been prescribed.

Thomas M. Stewart, M. D.: I want to say, Mr. President, that Dr. Green is not the only surgeon that knows something about homœopathic remedies.

---

6. CHRYSOPHANIC ACID IN ECZEMA OF AURICLE.

HARRY S. WILLARD, M. D.,

Paterson, N. J.

Mrs. M——, age 35, married, two children, sought advice for her ear, which had been discharging for several months, and in which there was intolerable itching. The auricle presented a picture of moist eczema, the folds of the helix and the antihelix being cracked, and a

yellow, thin serum being exuded from the surface. Behind the auricle, at its juncture with the scalp, there was a deep fissure, the edges of which were more or less indurated and the inflammatory area was gradually lost as the distance increased from the crack.

After syringing the external canal, I found that the discharge was simply the serum given off the diseased skin, which extended well down towards the tympanum, though as near as I could tell, upon account of the difficulty in getting speculum between the swollen walls, the outer layer of the membrana tympani was not involved with the rest of the skin. Such was the picture with aggravation from the use of water as the only guiding subjective symptom other than the intense itching.

Having seen several such cases benefited by the use of *Acid Chrysophanic,* I determined to give it a trial in this case, and truly the result was startling. I gave the 3x, one tablet, t. i. d., and to report in ten days. At that time the swelling of the canal was almost gone, and the fissures behind the ear and on the surface of the auricle were entirely dry and healing beautifully. The same drug was continued, and at the end of two weeks one would never have suspected that there had been anything wrong with the ear, except for the faint pinkish hue of the new skin.

Chrysophanic acid, though I do not know of any provings made of the drug, has been of much service to me in similar cases, though the severity and long-standing of this trouble made the rapid cure most remarkable.

---

7. ECHINACEA IN FURUNCLES.

THOMAS L. SHEARER, M. D.,

Baltimore, Md.

There are probably few things that, in proportion to their size, can be the cause of such discomfort to the patient as the little inflammatory processes known as furuncles, which are frequently encountered in the external auditory canal. Whether the furuncles have been produced by an infection from the edge of the finger nail or from the use of such articles as hair-pins, toothpicks, etc., introduced into the canal in order to relieve itching or other irritation, the tendency is always towards suppuration, and the discharge of the septic contents. After employing

various remedies, such as *Mercurius, Pulsatilla, Silicea,* I have lately been in the habit of prescribing the tincture of *Echinacea angustifolia,* twenty drops in a spoonful of water every two or three hours, according to the severity of the symptoms. The drug acts very promptly, and after reducing the surrounding zone of inflammation, diminishing its induration and its extent, it seems to bring the suppurative process to a focus, with the thorough removal of the broken down tissue. When one meets the same condition in the nostril, usually in the locality of a hair follicle from which a hair has been pulled and into whose cavity some aseptic material has been introduced, the degree of the associated inflammatory swelling may be enormous, extending into the upper lip and also the cheek in addition to the nasal septum and the tip of the nose. In these cases I always prescribe the *Echinacea* tincture as soon as the symptoms are decided—the earlier the better. Of course, one would naturally incise the furuncular process as soon as the presence of pus was definitely made out; to do so before the stage of suppuration is an error to be particularly avoided. The *Echinacea* should be continued until the last piece of diseased tissue has been discharged from the crater-like aperture of the furuncle and healing has commenced.. When one passes in review the different remedies that may be of service in septic conditions affecting the human body, there are none which can approach *Echinacea* in reliability of action and good results. As this medicine was the means of saving my own life some years ago, when suffering a most virulent carbuncle upon the back of the neck and head, I can present personal testimony concerning its value. The action of the plant is particularly called to the attention of the members of this Society because of the annoying nature of the furuncles which are found in the auditory canal and in the nostril. In both places, owing to the character of tissue involved, there is very little space for the inflamed area, and consequently the general tension and resulting pain are pronounced.

DISCUSSION.

David A. Strickler, M. D.: I would like to speak of another remedy in furunculosis, that is the topical application of Formalin solution, forty per cent. solution, first plugging the inner end of the canal and making the application direct.

C. Gurnee Fellows, M. D.: In furunculosis I have had patients cured with one per cent. solution of Formalin. I can find the same fault with all these other papers that I can with my own, and that is, that we

are reporting cases cured by these remedies and none of us gives the symptoms so that we could prescribe it again. The Formalin presented by Dr. Strickler I have used many times with wonderful success. It knocks out *Echinacea,* possibly because I have never used *Echinacea.* But many of the remedies are prescribed on pathological basis without any particular symptoms; but next year, or whenever we have these symposiums again, I would like it if we might have detailed symptoms so that we may know how to prescribe the remedy again. This is a criticism of my own paper, too.

The President It was intended as a part of these symposiums that these reports should not only have some cases presented but that they should also be criticised. If you do not think it a fair report get up and discuss it. That is what we want.

---

8. FERRUM IODATUM IN PANNUS SCROFULOSA.

BY RALPH I. LLOYD, M. D.,

Brooklyn, N. Y.

V. S., aged 6 years, came to the office on the 30th of March, 1904. The right eye presented a typical phlyctenule at the junction of the cornea and sclera, on the outer side, on a level with the center of the cornea.

The left eye presented a triangular, fleshy elevation, containing several blood-vessel, apex at the centre of the cornea, base down and out, covering one-fifth of the entire corneal area. His mother stated that he had had several "red spots" in the left eye similar to the one present in the right. Photophobia and redness were not excessive. The boy is plump, sluggish. He was given *Calcarea iodatum* 3x, two hours. Locally:

℞. Biborate of soda .....m. 5.
Aqua camphora .....oz. 1.
M.
Sig.—Instil gtt. 2 in o. u. t. i. d.

Four days later, there was a decided improvement which has continued. From a fleshy mass which was raised above the surrounding tissue, it has gone down steadily, and at the present date, nothing remains but a *very* thin translucent layer, plainly visible under strong oblique illumination, but under ordinary circumstances, hardly visible.

FERRUM PICRICUM IN DIFFUSE INFAMMATION OF THE EXTERNAL AUDITORY CANAL.

BY C. GURNEE FELLOWS, M. D.,

Chicago, Ill.

Miss ——— had suffered for months from what you all know as a very painful, persistent and recurrent affection, namely, multiple furunculosis of the external auditory canal. She had been under the care of an aurist, with the application of ointments, anodyne applications, mercurial preparations, and twice has undergone operations for deep opening and curettement under a general anæsthetic without relief.

The canals are swollen shut, affecting her hearing by occlusion, and the pain is continuous and intolerable.

Believing that all local means had been sufficiently tried and having had good results in similar cases, I prescribed *Ferrum picricum,* the 6th, with immediate improvement and permanent relief, so that in six or eight years she has never had a recurrence.

I have used this same remedy, *Calcarea picrate* and *Picric acid* in various potencies, but always low, in dozens of other cases, prescribing on a pathological ground alone, with almost uniformly good results.

DISCUSSION.

David A. Strickler, M. D.: I would like to say a word in relation to this paper. I have used for a number of years the *Picrate of lime* in furunculosis of the external auditory canal until I learned to look upon it as practically a specific. I ran across two cases a year ago in which I hesitate to say its action was specific. I have had quite a few cases in which its action was very definite. I think *Picric acid* is most applicable to cases where the system is quite run down. It has marked prostration as one of its symptoms, and is indicated in marked prostrations. I get good results from it.

Thomas M. Stewart, M. D.: I think when these papers are being read we are thinking more of the remedy than of similar conditions. At the same time I have been waiting to see if something did not come up in which I had experience with that remedy or that condition. Here is the opportunity. I have never used the *Echinacea* for fununcles, but I have used the other remedies, *Ferrum picrate, Calcarea picrate, Hepar,* etc., and a number of times have been disappointed. Of course, these prescriptions were largely on the pathological basis, but I want to speak of the recurrent cases. I recall one of these cases in particular, a young lady who goes to a good many receptions, dances, etc., and has

frequently been prevented from accepting engagements on account of furuncles. I had gone the gamut of prescriptions, local treatment, etc., and the remedy or preparation of cerevesine came to my notice, and which you all know to be dessicated yeast. I tried to prescribe it in the ordinary way but the effervescence of it and the odor of yeast was disgusting to her; she could not and would not take it. I then had it put in No. 1 capsules, and saw her within two weeks before leaving for this convention, and asked regarding that particular condition, and she says a very few doses of cerevesine, when the itching begins, will start the cure, and she will continue cerevesine until she has taken eight or ten doses of the yeast. I think in her case there is gastro-intestinal irritation upsetting the system.

Alfred P. Hanchett, M. D.: I would like to arise to confirm these prescriptions. In my own experience the *Calcarea picrate* has been prescribed repeatedly for this trouble in the external canal.

Referring to the use of *Picric acid* in carbuncles I use it in run-down conditions, particularly nervous conditions. One of the cases was a nurse who was very much debilitated by nursing in addition to a series of these troubles, and she had always been able to correct the trouble unless prostration developed.

Referring to the *Calcarea carbonicum* for catarrh of the Eustachian tube, I have had repeated successes from its use. As for *Capsicum* for the mastoid I could not tell how many times I have seen it fit that difficulty and abort the necessity of an operation.

Fred. D. Lewis, M. D.: I have had a number of cases of furuncles of the auditory canal, but I have never used any of the picrate preparations, but the remedy from the use of which I have had very marked success and seldom recurrence is *Calcarea sulphuricum* 30th.

J. W. Stitzel, M. D.: I wish to confirm the action of *Echinacea* in furuncles. I have never used *Echinacea* in furuncles of the auditory canal, but have used it frequently when I have had patients suffering from repeated attacks of furuncles in other parts of the body with success. I usually use *Calcarea picrata* in furunculosis of external auditory canal.

But from my experience with *Echinacea* would not hesitate to prescribe it with confidence in case *Calcarea picricum* failed. I have had cases who had repeated attacks of boils; in fact, never being free from them for months, who were promptly cured by the administration of *Echinacea*. If you will look up the literature on *Echinacea* you will find that its peculiar sphere of action is found in impoverished conditions of the system, as found in and after infectious diseases, as typhoid fever, diphtheria, etc. And it is in furuncles following protracted diseases that you will find *Echinacea* particularly efficacious.

I use it in doses of 10 to 20 drops of the tincture, four times daily. I have used different preparations, and am not partial to any one pharmacy.

A. W. Palmer, M. D.: If this is a case of homœopathic treatment for furunculosis of the external ear I want to speak of another remedy. and that is *Tarantula cubensis.* I have given that several times with very good results. We all probably know of the action of *Tarantula cubensis* for carbuncles and for boils of any kind, and I have come to use it for furuncles of the external ear as well, and my experience with that is quite similar to those of my friends who have used *Ferrum picricum* and *Calcarea picrate.*

John L. Moffat, M. D.: I should like to speak one more word in regard to having an experience meeting on a scientific basis. Some years ago in the New York Homœopathic Materia Medica Society each member was expected in turn to report a case, the symptoms, his diagnosis, adjuvants and the history, all in such a way that the reader or hearer could *verify* the diagnosis and be satisfied it was fair to attribute the cure to the remedy. When this paper was read to the Society it was criticised, and after having passed was considered a winnowing clinical demonstration instead of a mere assertion. The mere assertion to this body that a doctor has used this remedy in this dose, especially when confirmed by others, is of great value; but that has been going on ever since Hahnemann's day. Can we, ought we, or do we want to do this a little more scientifically?

---

9. GRAPHITES IN ADENOIDS, ENLARGED TONSILS, BLEPHARITIS, MARGINAL AND POST-AURAL ECZEMA.

BY E. D. BROOKS, M. D.,

Ann Arbor, Mich.

May 16, 1901, a German woman, in humble circumstances, brought her eldest son, a lad of about four years, to have me see his eyes, and a sorry looking pair of eyes they were. The lids, especially at the margins, were red and swollen, the lashes loaded with crusts, the outer commissura cracked and oozing a glutinous, yellow serum, the conjunctiva inflamed and discharging a muco-pus, the corners of the mouth and edges of the nostrils sore, cracked and oozing, the mouth constantly open for breathing purposes, and on the face the listless, half idiotic expression so common in children unable to breathe through the nose. The child was poorly nourished, stupid and irritable, and repulsive to behold. The faucial tonsils were much enlarged, and the post-nasal space filled with adenoids. Sleep was much interfered with by his efforts to obtain air, and starting night terrors and choking were distressing to see.

I advised operation to remove tonsils and adenoids, but for some reason, which I have now forgotten, a delay of a few days was agreed upon, and I gave him *Graphites,* 30th potency, to take in the interim.

Upon his return a week later his condition was so much improved that the mother begged for a further delay of the operation, and I weakly yielded, thus robbing myself of the credit of another operation for this condition, for when he returned a week later the indications for operative measures were missing. He was breathing through his nose and sleeping as sweetly as any child, the nose and mouth were healed, the lashes were free from crusts, and the lids from inflammation, and she would not have brought him again except for a slight redness and stringy discharge, which *Euphrasia* soon relieved. I have treated various other members of the family since then and have kept track of this case,, so I am sure that, with the exception of a slight attack of measles during the epidemic of the winter of 1903-'04, he has not had any sickness since that time. He is doing nicely in school, and is as nice and healthy looking a boy as one could wish. No adjuvants were used in this case nor any change in diet or surroundings, nor did I receive any compensation for my services.

DISCUSSION.

The President: That was the constitutional condition; treat the totality of the symptoms.

---

10. GRAPHITES IN CILIARY BLEPHARITIS.

BY G. DE WAYNE HALLETT, M. D.,

New York, N. Y.

Case One. Master C. U., a child of 10 years, was brought to me by his mother in March, 1901. He was of fair complexion, with long silky eyelashes, some of them misdirected. The lids were slightly swollen, with red margins, which appeared dry till closer observation disclosed that they were moist and with numerous dry scales and small crusts covering the surface on the inner side of the lashes. At the outer canthi there was excoriation and a few crusts. On everting the upper lid a crack appeared at the canthus followed by slight bleeding. There was a history of a previous moist eruption behind one ear.

A small brother had enlarged cervical glands. *Graphites* 6th was given with no local treatment except that yellow vaseline was to be rubbed on the lids each night. A week later, his second visit, there was marked improvement. After two weeks the lids appeared normal. The remedy was continued in a higher trituration. It was my desire to examine the refraction, but there were few other symptoms, and the remedy acted so well that it was not done. It should be remembered that blepharitis is most commonly caused by uncorrected ametropia. It may, however, attend constitutional disturbances or result from eczema or inflammation of adjacent structures. It follows then that the most successful treatment of the majority of cases is correcting glasses, and such has been my experience, but it is also true that the indicated remedy has a place, and is curative in certain cases.

---

11. IGNATIA IN NERVOUS SPASM OF LARYNX ON ATTEMPTING TO SING.

BY HERBERT W. HOYT, M. D.,

Rochester, N. Y.

Mrs. C., aged 35, music teacher. Has had several attacks of laryngitis. For a year has had at times a stranglinng sensation in right side of throat. On singing a burning, sticking pain in right of larynx. Nothing to be seen to account for it. Local treatment did little good. Then *Ignatia* 30x was given, which was followed by relief of all these sensations.

---

12. IPECAC IN PHLYCTENULES OF CONJUNCTIVA AND CORNEAL MARGIN.

BY G. DE WAYNE HALLETT, M. D.,

New York, N. Y.

Case Two. Mary J., 9 years old, was brought to me in June, 1903, with both eyes tightly closed, head bent down. Cursory examination showed a slightly excoriating discharge from the nose, particularly the right side, and a flow of tears on each attempt to open the lids. Through a slight lid aperture a drop of cocaine solution was instilled, and after

a few minutes the lids could be opened enough to disclose a very red conjunctiva and a number of small phlyctenules at the corneal margin. The condition was most marked in the right eye. The flow of tears was quite considerable, and the photophobia continued to be marked. There was a history of occasional nose bleeding. Because the pupils were small and I believed it would favor a cure to quiet the muscle of accommodation, I caused atropine, 1 per cent., to be instilled once daily in each eye. Suggestions were made as to making the diet one of plain food, and internally she was given *Ipecac* 6th. This treatment was continued for some ten days with marked improvement at first three days, and then a gradual disappearance of the redness and of the phlyctenules till a cure resulted.

DISCUSSION.

Thomas M. Stewart, M. D.: What had most to do with the cure; regulation of diet, atropine or the remedy?

Dr. Hallett: The remedial agent.

Dr. Stewart: I would criticise it in that way. I should not consider *Ipecac* at all.

John L. Moffat, M. D.: How long is it since the cure occurred? Has there been no recurrence?

Fred. D. Lewis, M. D.: It seems to me that if in this particular case there was an eye strain of considerable amount that the relief caused by the relaxation through the use of atropine would cut a very much larger figure in the cure of the case than any of the other remedies.

A. B. Norton, M. D.: I do not see any reason for using atropine at all. I should leave it to the remedy alone.

David A. Strickler, M. D.: I should like to report a case of phlyctenular trouble cured by *Ignatia,* and I will give my reasons for giving *Ignatia* in the case. It was a lady who had a very troublesome phylctenule that ran the usual course of phlyctenules. You sometimes think they are getting well and suddenly the trouble will get very much worse. I could not find any reason for its continuance, and could not get any permanent results from any treatment I gave it. Finally it occurred to me to go into her case a little more fully for its history, and I found she had a number of attacks of this kind, always lasting some time; in the three preceding instances it followed the death of some member of her family; first the mother, then a child, and then some other member, and in every case after the loss she had one of these attacks lasting a long time. I gave *Ignatia* with almost immediate results; that is, within forty-eight hours. The potency used was the 30th. The trouble entirely disappeared nine months ago; there has been no return.

13. KALI BICHROMICUM IN SUPPURATIVE OTITIS.

BY GEORGE A. SHEPARD, M. D.,

New York, N. Y.

Dorothy T., aged 5 years, had acute otitis, pain for two days followed by discharge. The patient belonged in the family of a physician, and was attended by her uncle. I advised cleanliness, the use of boracic acid and alcohol solution, and internally several empirical remedies, among which were *Hepar* and *Calcarea fluorica*.. Her physician reported that the discharge was profuse, but always when she called upon me the ear had been carefully cleansed, and I could see only a small perforation in posterior and inferior segment, and a mucous membrane somewhat thickened but not much injected. After the discharge had lasted for nearly three weeks without any change, I insisted upon seeing the ear before it had been cleansed, and found the canal filled with a whitish. albuminous, non-offensive pus. *Kali bichromicum* 3x was prescribed, and in twenty-four hours the discharge had ceased, and in five days the perforation had healed. The method of cleansing was not changed.

---

14. LACHESIS 30x IN ACUTE RETINITIS.

BY WILLIAM R. KING, M. D.,

Washington, D. C.

Mrs. V., æt. 58 years. Old patient. Have treated her for over twelve years for occasional acute attacks of hæmorrhagic retinitis with complete scotoma. This has always yielded in time to remedies and local galvanic electricity with latterly pneumo-massage. She is highly myopic, and has suffered from chronic nephritis for some years. Her vision after last attack of retinal hæmorrhage had improved to $^{5}/_{9}$, and she had taken a long furlough from her official duties as a clerk in the United States Post Office Department, when on March 7, 1904, she presented herself again complaininng of a filmy spot in left eye (the only one ever affected), V = $^{5}/_{12}$ scant. This filmy scotoma was quite central in location. She had been under *Physostigma* 3x for a time for other eye conditions, but at this time she presented marked indications, as I thought, for *Lachesis*. She was decidedly worse after sleep. Had distinct feeling of any clothing which might be a trifle snug. Wanted

her collar loose, etc. These symptoms with a knowledge of the former attack and her nephitic affection led me to prescribe *Lachesis* 30x.

On March 11th, after attending a performance of grand opera with many bright light effects on stage, her condition was greatly aggravated. Complete scotoma, central in location and covering most of direct field. V = practically nil. Instillation of euphthalmia, 5 per cent., revealed, through the ophthalmoscope, a large central and several smaller spots of subretinal extravasation with marked retinal inflammation, limited largely to area of macula and above. This extravasation was absolutely non-hæmorrhagic.

On this date local applications of *Arnica, Hamamelis* and boracic acid over closed eyelids was begun, and the remedy was continued. On March 15th, V = $^{5}/_{45}$ through spot. On March 17th, V = $^{5}/_{30}$. March 29th, V = $^{5}/_{22}$. April 13th, '04, V = $^{5}/_{15}$. May 25th, V = $^{5}/_{12}$ scant.

I have not seen her to test her vision since the last date, but she has assured me that she is sure she sees as well as usual with this eye.

I know, at least I feel very confident, that I have cured suppurative otitis with the homœopathic remedy. I do not mean a case where the deeper tissues were involved and there existed broken down ossicles or bony walls, or anything of that sort, but cases of subacute, semi-chronic supurative otitis with the characteristic symptoms. I have seen prompt response, for instance, from the use of *Kali bichromicum* used in that class of cases. The discharge was distinctly light in color but always stringy, and could be drawn out in long strings, absolutely characteristic of *Kali bichromicum.*

DISCUSSION.

A. B. Norton, M. D.: In regard to *Lachesis* with reference to retinal hæmorrhage, I would say I have found it a very valuable remedy in hæmorrhagic conditions in the retina, and I have in mind one other remedy from the use of which I had surprising results two years ago. It is a case I have spoken of several times before our local Society; there was hæmorrhage in the retina, and the hæmorrhage was apt to increase. It was exactly at the macula, and the vision was destroyed, to my recollection, to $^{15}/_{200}$. The case was a nephritic patient, under the care of one of our higher potency men in the City of New York. I gave a very unfavorable prognosis, expecting there would be practically no vision restored in that eye, but suggested *Aurum muriaticum*, and the doctor used the remedy himself, but I do not know the potency. Inside of six months not only had the hæmorrhage entirely subsided, but

most surprising of all, the vision had returned to practically normal. The hæmorrhage is exactly in the macula under *Aurum.*

15. LYCOPODIUM IN FOLLICULAR TONSILLITIS.

JOHN B. GARRISON, M. D.,

New York, N. Y.

Case. *Tonsillitis, follic.* Child 7 years old. Taken ill during the night; fever and restless all night. Saw the next day about 10 o'clock. Temperature, 102°; pulse rather weak, 120. Right tonsil covered with a grayish-white membrane, quite adherent. Child wanted to urinate frequently, and cried when it passed it. Dissolved a powder of *Lycopodium* 30th in six teaspoonfuls of water and directed that a teaspoonful be given every two hours. Called the next morning and found all symptoms had disappeared, and child appeared to be as well as ever. No other medicine or local measures used. No culture taken.

16. MAGNESIA PHOSPHORICA IN MASTOID NEURALGIA.

HOWARD P. BELLOWS, M. D.,

Boston, Mass.

It is the purpose of this paper to briefly and practically illustrate the curative action of *Magnesia phosphorica* in certain neuralgic conditions which centre in the mastoid region. To this end I shall cite four cases from the records of my personal practice.

Case One. May 25, '97. Miss ———, age about 30. During the whole of the past winter has been troubled with both dull and shooting pains in the mastoid region on the right side. Can remember but one day in which this pain was absent. Is not subject to neuralgia, and is in good general health. Has always been over-sensitive to sounds. Examination shows R. Mt. normal in appearance. Mastoid region is sensitive to pressure. H. D. R. w. = $^{64}/_{40}$. L. = $^{60}/_{40}$. *Magnesia phosphorica* 6x, four times a day.

June 8th. Pains stopped very soon after last visit. Only occasional twinges since. No tenderness upon pressure. H. D. R. w. = $^{62}/_{40}$. L. = $^{62}/_{40}$. Medicine discontinued.

Nothing further was heard from this patient until a year and a half later, when she called in consequence of aural trouble of a totally different nature.

Case Two. October 22, 1901. Mr. ———, age about 19. Early

yesterday afternoon a fitful pain developed rapidly in the left mastoid region, shooting to a spot over the left eye. This pain continued all night, keeping him awake. Mastoid more tender to slight than to hard pressure. Tenderness increases after pain has been continuous for some time. Examination shows nothing in local appearance to explain pain. H. D. R. w. = $^{52}/_{40}$. L. = $^{56}/_{40}$. *Magnesia phosphoricum* 6x, every one to three hours, as needed.

October 23d. Better. Continue as above.

October 30th. H. D. L. w. = $^{57}/_{40}$. Ear looks all right and no tenderness remains over mastoid, but has been on the water for several days, exposed to cold winds, and has developed tenderness in the muscular tissue on the left side of the neck below the occiput. Pressure at this point causes shooting pain over left side of the head. Pressure over left eyebrow causes similar pain, but less marked. Pain remits sometimes for several hours. No fever or chilliness. Aggravation evening and night and by sudden movements of head or body. *China arsenicum* 3x, every two or three hours.

November 6th. Much improved. Continue same.

This case required a second remedy before it was cured, but not until the mastoid condition had been permanently cleared up by the *Magnesia phosphoricum,* and a different condition had developed in consequence of a new exposure.

Case Three. February 4, 1901. Mrs. ———, age about 32. Of late much dull, heavy pain, with occasional sharp thrusts in right mastoid region. Some sensitiveness to pressure under auricle and also on spot over mastoid, the sensitiveness increasing as the pressure is deepened. Examination shows right middle ear entirely free from inflammation. H. D. R. w. = $^{28}/_{40}$, = $^{27}/_{40}$ after inflation. *Magnesia phosphoricum* 6x, every one to three hours, as needed.

February 6th. R. w. = $^{53}/_{40}$. Pain less. Same medicine continued.

February 12th. Pain still less. Continued same.

This case was not very satisfactory but serves to show the favorable action of *Magnesia phosphoricum.* For three months following the above date the patient kept this remedy by her in case of need, and resorted to it from time to time for the relief of the pain before the cessation was complete. The next case is far more satisfactory and conclusive.

Case Four. November 1, '99. Mr. ———, age about 20. For past two months has had much neuralgic pain about the head. After five days of cessation this began again two days ago, first in the right ear, but soon settling into the right mastoid region in very severe and intractable form. The pain is of typical, shooting character, and there is no accompanying deafness or tinnitus. Examination shows tmypanic membrane and middle ear free from inflammation. There is slight tenderness upon pressure over apex of mastoid but not over any other portion. H. D. w. = $^{65}/_{40}$ right, and $^{66}/_{40}$ left. *Belladonna* 1x, every two hours.

November 6th. Much pain in mastoid since last visit, worse at night, last night extending back into occiput. Still tenderness on pressure over the apex. H. D. w. = $^{6}/_{40}$ right, and $^{65}/_{40}$ left. *Capsicum* 3x, every two hours.

November 8th. The pain has continued with remission during day and aggravation during night, with increased tenderness over apex, pressure upon which caused pain to shoot into the ear. A slight sensation of local heat was also noted for the first time. This morning a steady, dull pain all over region behind the auricle with occasional sharp twinges shooting into the ear. No throbbing, autophony or deafness. Gentle motion of the auricle causes pain over its posterior surface. Some lessened tenderness on pressure over apex of mastoid. Some soreness in the articulation of the jaw on the right side upon movement, and especially upon pressure. Also tenderness in the intra-orbital region. *Magnesia phosphoricum* 6x, every one to three hours, as needed.

November 10th. On night of the 8th severe pain shortly after retiring, distinctly localized in sulcus under the auricle and in the ear, and lasting some hours. Grumbling all day yesterday, but fair night. No pain this morning. Tenderness over apex nearly gone. Some sensitiveness remains in jaw and in intra-orbital region. H. D. R. w. = $^{64}/_{40}$. Continued *Magnesia phosphoricum* 6x.

November 21st. No pain whatever for past ten days.

These four cases rest entirely for amelioration or cure upon the internal remedy. No local measures whatever were employed, with the exception of the single inflation, with air alone, in the third case. No local palliatives of any sort were used, not even hot applications, although the cases calling for *Magnesia phosphoricum* are particularly responsive to the action of local, dry heat.

In closing, I wish to call attention to an interesting point which was developed during my review of all the cases, for some years past, in which I have prescribed *Magnesia phosphoricum* for aural neuralgia. I was struck by the fact that in all of the cases in which this remedy acted most promptly and satisfactorily the hearing distance was $^{60}/_{40}$th or over. This strikingly accords with the indication for *Magnesia phosphoricum,* which is found in our text-books—"Neuralgic pains in any part of the body when the phenomena of sensation are too acute."

---

18. MELILOTUS IN HEADACHE.

BY DAVID A. STRICKLER, M. D.,

Denver, Col.

Mr. President and Members of the Society:

I feel I owe something of an apology for presenting this case from published records. The case I want to report is a most excellent

one, and it is one I had published in *Progress,* but inasmuch as it has not come to your attention, or rather the attention of most of you, I will give you the report. I is only a short one. *Melilotus in Headache.* On May 5, 1902, Mrs. F. C. G., aged 31, called, with a history of sick headache of many years standing; had to give up school when a girl on account of the headaches, which have continued ever since, with a tendency to increase in severity. She is very nervous. Examination of the eye without mydriatic showed it was a case of hyperopic astigmia combined with right hyper-esophoria. She had been examined and glasses prescribed twice before she came to see me. I prescribed glasses for her under atropine, with a subsequent history of no relief from the glasses. These glasses were worn for a time. The 24th she came with the report of no improvement or relief of headaches. At this time careful inquiry was made for the homœopathic remedy, when she gave the following: Intense headache over left supra-orbital region; throbbing, bursting; worse from motion; flushed face, almost purple at times; the eyes red; all the symptoms relieved by nosebleed. In getting this history I was not working it out with the idea of any particular remedy. In the study of *Melilotus,* a remedy which I had never prescribed, I found recorded: Intense headache of left supra-orbital region; aggravated by motion or thought; headache so intense as to cause purple redness of face and blood-shot eyes, culminating in epistaxis, which affords relief. Sensation as if the brain would burst through the forehead; violent sick headache; sick headache relieved by epistaxis.

Melilotus being apparently the similimum, was prescribed in 3x potency, four times daily. She reported on June 2d, headache improved at once on taking the remedy, and is entirely gone; no discomfort in head or eyes. A week later her husband called to pay his bill and to ascertain the name of the remedy in case she had any further need. Her family physician told me last week, though he often prescribed for other members of the family, this lady has had no return of the headache, has had no recurrence since the above prescription. This disease was of many years' duration, increasing in severity, not self-limited, not relieved by glasses prescribed by others or by myself, but immediately and permanently relieved with the taking of *Melilotus,* which was selected according to the law of similia.

DISCUSSION.

Fred. D. Lewis, M. D.: *Melilotus* is a remedy which appeals particularly to me because of the results I have obtained from it. My sister, the only case I have had to use it on particularly, has done a good deal of art work. She has spent days occasionally in the heat studying, drawing, possibly from the nude, where the temperature has to be high, using her whole efforts in her work, coming home with a severe supra-orbital headache. She has been refracted time and again, finding absolutely no glass indicated. *Melilotus,* in her case, one drop

of the tincture in a half glass of water, one teaspoonful, relieves the headache inside of fifteen minutes, almost always. In fact, I have relieved her headache in the same length of time by simply smelling of the tincture. It has occurred to me (I have never before expressed this) that possibly the benefit derived by particularly nervous workers, those who use their brains with very little physical exercise, going to the country for a month or two in the early summer time and getting the benefits of the out-of-door life, these have not received the benefits here particularly from the oxygen and fresh air exercises but rather from breathing the exhalations of the sweet clover. I think it is a remedy that is not proven to the extent that it ought to be and will be, but I think it is one of the great remedies that we will have in the future for mental exhaustion, mental overwork without sufficient physical exercise. But in the case I have cited there is no question that having comparatively little physical exercise, but a great deal of mental work to do, that when she gets a cerebral headache, which ordinarily would confine her to bed for several hours, the tincture of the sweet clover, *Melilotus*, will relieve her of that headache inside of ten or fifteen minutes, in the very minimum dose, and often only the odor from it.

John L. Moffat, M. D.: I want to bring *Melilotus* to the consideration of each of us who may have occasion to prescribe for very intense, congestive headache affecting the nose and the eyes, especially in nervous people.

Fred. D. Lewis, M. D.: These headaches come on almost invariably after my sister has been working in drawing from the nude, in which case the model must be in an atmosphere of rather high temperature, and during which time she has devoted her whole attention and mind on the subject she is working out, and she has absolutely no eye defect but is of a highly neurotic temperament.

John L. Moffat, M. D.: My cases have not necessarily been relieved by nosebleed, but there has been a feeling of congestion in the nose. I should think it would be a valuable remedy to think of in congestion of the upper passages of the nose without any marked bleeding.

---

19. PHOSPHORUS IN RETINITIS.

BY HERBERT D. SCHENCK, M. D.,

Brooklyn, N. Y.

William Z., aged 39 years, assistant superintendent of the department of parks, was first seen May 21, 1903. He was of compact build, rather stout, and sanguine temperament. His family history was good and his general health at that time excellent. The previous February he had been confined to his house for ten days or two weeks with a severe attack of la grippe, where there was intense headache, high fever and some delirium. As soon as he was convalescent he went for a

sleigh ride one sunny afternoon and soon afterwards began to notice a "dust" before the left eye. Recently he noticed that the perpendicular lines of objects curved rather sharply outward and inward at several points, while the horizontal lines curved downward at the ends. He experienced some *fatigue of the eyes* if they were used at the near point, and slight photophobia and an occasional pain in the temples, which was really more of a *fatigue of the head* than an actual pain. The external conditions of the eye were normal, as was the right fundus. In the left macular region there was a spot of opaque retinal tissue of square shape, with a few dots and dashes extending downward into the retina. The remainder of the retina and the optic nerve were normal. O. D. = $^{15}/_{15}$ with + 50 D^{s}. V. = $^{15}/_{10}$ d. O. S. $^{15}/_{80}$ d with + .50 D. Ax. 90. V. = $^{15}/_{30}$.

On June 6th, at his third visit, some exposure of the previous day had resulted in acute conjunctivitis with a leash of vessels extending from the caruncle to the corneal edge. There was also some injection of the scleral vessels. For this condition *Argentum nitricum* 30, every three hours, was given internally, with a 5 per cent. solution of argyrol used locally twice a day for a few days, the *Phosphorus* in the meantime being suspended. In four days this acute condition entirely cleared up and the *Phosphorus* was resumed. He began to note that the symptoms were disappearing in the order in which they came.

At the beginning of treatment the "dust" he had seen when the condition was first noted had concentrated itself into a rather poorly defined central scotoma, which had now so thinned out as to assume the form of "dust" again, and his vision was $^{15}/_{20}$ s. d., and the ophthalmoscope showed the spot in the macula to be less clearly defined. Three weeks later the vision had become $^{15}/_{15}$ d., and the "dust" had thinned itself into a very thin mass before the eye and the curves in the perpendicular and horizontal lines had almost entirely disappeared.

By August 1st, when he ceased treatment O. S. was $^{15}/_{15}$ s. d., and there was scarcely any blurring of the vision, and the curves had entirely disappeared from the lines. The spot in the macula had almost entirely disappeared and the smaller ones noted had entirely gone. The *Phosphorus* was used four times a day up to June 27th, when Saccharum lactis was given three times a day for ten days, followed again by the *Phosphorus* three times a day for a week. Nothing but Saccharum lactis was given after July 17th, when he was on his vacation.

It should be noted that the symptoms in this case disappeared in exactly the reverse order in which they appeared.

The symptoms upon which the prescription was based were:

Subjective—

1. Dust before eyes.

2. Fatigue of eyes and head even without much use of eyes.

Clinical—

Central retinitis.

In addition to the above, I will just briefly mention another one now under treatment, which came under my care a few weeks ago, where I can only report considerable progress where there had been a constant downward tendency for several weeks before he began to take homœopathic medicine. He is a healthy foreman in a shoe factory, about 32 years old. Never had but one good eye; right eye having only ability to count fingers at seven or eight feet. O. S. $^{20}/_{70}$ when I first saw him. There was some myopic astigmia. He had a central scotoma of considerable size, and the retina showed a distinctly hazy condition with a serous exudation extending out a considerable distance beyond the macula. He was given *Phosphorus* 6x, and the condition steadily improved. When I saw him a few days before I came away the scotoma had lessened very much, and his vision had improved to $^{20}/_{40}$. I think the case is going on to a rapid recovery. The macula has almost entirely cleared of the exudation. This case illustrates the absolute failure of our old school brethren to meet these conditions. This man had been to two of them who diagnosed the condition, as near as I could judge, as I had, but the only suggestion for treatment had been for an operation upon his nose, the removal of a portion of the middle turbinated, probably, but the doctor told him he did not know what effect it would have upon his eye. The man refused to have it done, because he knew of no condition in his nose which needed operation, and I could find none. His nose was as free as any I ever saw.

DISCUSSION.

A. B. Norton, M. D.: I would inquire if you could find a history of syphilis in the first case. The "dust" symptom suggests that.

Dr. Schenck: I did not mention it in the report, but no syphilitic history could be found. The symptom of "dust" before the eye was a subjective, not an objective, symptom.

20. RHUS TOXICODENDRON IN CORNEAL INFLAMMATION.

W. B. KREIDER, M. D.,

Goshen, Ind.

In Rhus toxicodendron we recognize an old friend. A polychrest. A proving was made of this plant by Hahnemann. It acts on the serofibrous tissues of the joints, muscles, skin, mucous membrane and lymphatic glands.

The general characteristic symptoms of Rhus are the aggravation during repose and an amelioration by motion, worse by getting wet. The eye symptoms are not numerous, but well defined. Inflammation of the lids, red and œdematous, apt to be vesicular. Swelling of the whole eye and surrounding parts; heaviness and stiffness of the lids as if paralyzed. On separating the swollen lids a gush of hot tears spring out. When we make a cure according to the laws of similia and analyze the conditions that caused us to make a certain prescription, we are sure to find that we have not wandered away from a logic that is as unchangeable as the laws of the Medes. Correct prescribing is not guess work, it is a perfect art.

Were we posesssed with the insight and the tact to analyze our cases and understand therapeutics and symptomatology, how to apply it, we would make many brilliant cures. Many cases that to-day fall into the hands of the surgeons are a reproach to our methods of applying therapeutics. The symposium of cases cured under the law of similia will herald the fact that we are laboring in the art.

Case One. Baby N., both eyes inflamed, lids puffy and œdematous, tightly closed, conjunctiva red, like raw beef. Did not see cornea. Sero-mucous discharge. On opening the lids hot tears gushed out. Prescribed Rhus toxicodendron 40m. Did not see the boy for one week, then returned and found the eyes fully recovered. The symptoms on which the prescription was given were the general œdema of lids and inflamed eyeballs, with gush of tears on opening the closed lids. The record of the case is, one prescription of Rhus toxicodendron 40m. No local treatment, with perfect recovery in one week.

21. RHUS TOXICODENDRON IN "REFLEX OPHTHALMIA."

W. B. KREIDER, M. D.,

Goshen, Ind.

Case Two. Master P., age 8 years. Had an attack of scarlet fever with disease of eyes as sequelæ. Had been under old school treatment for three months when I saw the case. Found the lad in a dark room with head buried in the pillow. Eyes very sensitive to light, with profuse lachrymation, slight puffiness of the lids and slight congestion of the eyeball. No phlyctenule present. Complains of sharp cutting pains, with great dread of light, aggravation at night, restlessness, hot tears.

I prescribed Belladonna and Aurum successively for a week, but had not benefited my case. The lad's mother now gave me a new symptom. Every time I bathe the boy in the evening he is worse during the night. I now prescribed Rhus toxicodendron 40m. one dose, with placebo following. This proved the similimum to the case, as no other medicine was given until the dose of Rhus was repeated after an evening bath when the symptoms returned in a light degree.

My record in this case reads: A severe case of reflex ophthalmia, aggravated by bathing, cured by Rhus toxicodendron 40m.

These two cases verify the similimum of Rhus in two distinct characteristic symptoms. First, the gush of hot tears from an inflamed eye, and second, the aggravation from bathing.

DISCUSSION.

A. B. Norton, M. D.: I would like to criticise the diagnoses in these cases. I do not think in a special society like this that the diagnosis is sufficiently accurate. It should state definitely the character of the inflammation, whether interstitial or what it is.

The President: I called attention to this fact on the program. It was put down by the Secretary in getting up the program, but the paper distinctly states it is not a case of phlyctenule. I put it down as best I could guess at it.

---

22. PANOPHTHALMITIS AFTER CATARACT EXTRACTION —RHUS TOXICODENDRON.

A. B. NORTON, M. D.,

New York, N. Y.

James L., age 67, mature cataract of the right eye.

A preliminary iridectomy had been made three weeks previously, healing nicely with no complications.

The extraction was made under usual precautions with no untoward results. The second day after the operation on dressing the wound noticed the lids decidedly swollen, red and puffy. The examination of the eye showed a profuse lachrymation with an œdematous chemosis. The wound had closed and anterior chamber re-established, but there was noticed a slight haziness along the lines of the incision.

Atropin 1 per cent. was instilled, the dressing reapplied, an ice bag was ordered laid on the side of the eye and Rhus toxicodendron 3x given.

The following day the eye was looking very much worse. The swelling of the lids had increased and was somewhat harder. The chemosis was decidedly worse, denser and less œdematous. The haziness of the cornea at the line of the incision had extended and there was commencing hypopion. There was quite severe pain in the eye and head, much worse during the night. The eye looked bad, panophthalmitis was diagnosed and an unfavorable prognosis given.

The same treatment was continued except that the Rhus was given five drops of the tincture in one-half glass of water, and a teasponful every hour.

I certainly thought the eye was lost, as the change for the worse in twenty-four hours with the patient taking Rhus all the time was decided.

As the remedy seemed indicated and as it had always been my sheet anchor in panophthalmitis it was continued, but given lower.

The next day showed no change for the worse; as far as I could judge the eye had held its own, and the remedy was continued.

Two days later there was without doubt marked improvement, aqueous was clearer, the chemosis not as great, and the pain less.

From this time on the case steadily progressed, the chemosis disappearing, the cornea clearing, and the eye went on with perfect recovery and no loss of vision.

I believe that the change to Rhus tincture saved this eye. It was steadily progressing under the potency and began to respond only after the tincture was used.

I have noticed this same action since, and now always use *Rhus toxicodendron* in the tincture in water for panophthalmitis.

DISCUSSION.

John L. Moffat, M. D.: I would like to ask if Dr. Norton, or any one

else, has seen any bad effects from Rhus tincture in purulent ophthalmia or panophthalmitis. Both Geo. S. Norton and T. F. Allen cautioned us against too large doses.

A. B. Norton, M. D.: I recall one case in which I gave *Rhus* in low potency and thought I found Rhus toxicodendron effects, but I have never had any bad effects upon the eye. But, as I say, in my recent experience, I find Rhus given in water, five drops of the tincture in half a glass of water, has done much better than the potency.

Thomas M. Stewart, M. D.: Dr. Norton's remarks giving the benefit of Rhus tincture calls to my mind a case of granular lid; there were no true granules at any time. Diet was regulated, case was under old school treatment, atropin and yellow oxide ointment had been used and then they urged operation; but the condition had not been benefited. The case was reported at the Cincinnati Homœopathic Lyceum. There was puffiness of the eyelids, flow of tears on opening the lids, aggravation from dampness. Rhus in the 200th and nothing else was given, no result, and the potency was reduced to the 30th. Finally the tincture, five drops in a half glass of water, the patient to take a dose every few hours, and in a few weeks' time that case was completely cleared up.

---

23. SPIGELIA IN NEURALGIA.

E. W. BEEBE, M. D.,

Milwaukee, Wis.

A young lady, 20 years of age, suffering from attack of suppurative inflammation of the middle ear of the right side for a period of thirty days, with amelioration and aggravation at times, with apparently no cause for the same. On one occasion while improvement was manifest in the condition of the ear, but while still confined to her bed, she awoke one morning with a very severe headache, with nausea, and which later was followed by vomiting of sour fluid, she having taken no food since the following evening.

The pain was confined mostly to the occiput, and the patient desired to keep as still as possible and did not wish to talk or be disturbed, as her sufferings were aggravated by motion of every kind.

The family physician, who was a regular of the orthodox kind, prescribed Dover's powders every four hours, together with a tonic of some kind between; these she took as directed during the day. At 8 o'clock in the evening I called upon my patient to dress the ear, which I found in a much better condition than on the previous day, but she

was suffering excruciating pain in her head, with nausea, as above described. On learning the symptoms of the case, a few medicated discs of the 3d decimal attenuation of Spigelia were dissolved in a half a glass of water, and two teaspoonfuls ordered to be given every half hour till relieved.

On visiting my patient the following evening she informed me that the little "cold water" I gave her stopped the pain in her head, after she had taken but three doses, and she fell asleep, and had no return of the pain or nausea afterwards.

It is a characteristic of this drug, as mentioned by Hering, to have headache in the cerebellum early in the morning, which radiates to the temples, accompanied by nausea and vomiting, with a feeling as though the head would burst, aggravated by moving the head, and from noise, thinking or from jarring the bed, face pale, with nausea and vomiting, vertigo on rising in the morning, aggravated by looking down or by turning the eyes.

A confirmation of the action of Spigelia in conjunctivitis accompanied by severe neuralgic pain in the temple.

Mr. B., 40 years of age, had an attack of conjunctivitis of the left eye, both lids and globe being implicated; there was intense congestion, photophobia and lachrymation; with this there was severe neuralgia of the left supra-orbital region, which extended down the side of the face to the superior maxillary.

The case had been in the hands of an old school physician for several days who diagnosed it as "neuralgia due to carious teeth," but as no improvement was manifest from his treatment, and the conjunctival inflammation becoming more marked, and the pain excessive, he consulted me on May 28th, and received as a prescription a vial of discs of Spigelia 3x, of which he was to take one every hour till relieved, no other medicine of any kind being given. Improvement was manifest in a few hours, and on June 1st (three days after the prescription) hardly a vestige of pain or redness of the eye remained to indicate the severity of the attack.

As no other medicine was given we may justly conclude that the cure was due to the homœopathic action of the drug.

The pain in this case was stitching in character, aggravated at night and by motion, the left side of the face being the one affected, all of which are characteristic of Spigelia.

This remedy, as you are all well aware, is one which has come down

to us from Hahnemann, and is a favorite one of the writer for neuralgia in general, when the symptoms correspond to those above enumerated.

In ophthalmic use it is particularly indicated in ptosis or paralysis of the upper lids, with a feeling as if the eyeballs were too large for the orbits, and cannot be turned without pain, which may be simply a pressure from within outwards, or lancinating, sticking, tingling or burning in character. There is an inclination to wink rapidly. It is useful in some forms of blepharitis.

The location of the pains is most generally above the orbits and in the maxillary region.

---

24. SULPHUR IN DISPERSION OF CHALAZIA OF RECENT FORMATION.

G. A. SUFFA, M. D.,

Boston, Mass.

On January 26, 1894, Dr. Laura M. Porter, of Boston, Mass., called, exhibiting a chalazion on the inner portion of the left upper lid without inflammatory symptoms. On examination, found the growth to be of the ordinary type of moderate size nearest the conjunctival surface.

After explaining the nature of the growth, I stated that the quickest way to get rid of the offender was by incision and curettement, yet that remedies might be tried, naming the remedies recommended, at the same time admitting that I had not been very successful in dispersing these tumors with internal remedies.

In about three weeks Dr. Porter reported that the tumor had gradually disappeared without any reaction under the use of Sulphur 12x, taken morning and night. Nothing else was used, either locally or internally.

I have prescribed the remedy in many cases since with marked success, a large proportion yielding, just what proportion I am unable to state, as I have not had time to hunt out the cases from my records. But I am fully convinced by the large number that I can remember that disappeared under its use, although I cannot recall their names and thus get at the records quickly, that the remedy had a hand in the process of resolution, and that it was not merely a coincidence.

The cases that have yielded are of recent tumors, mostly of not over a month's growth; those of non-inflammatory character have disap-

peared fully as readily as those with some inflammatory symptoms. None have suppurated, absorption having taken place without any destructive process. I cannot recall any disappearing that had been present over three months. During the rush of office work I failed to ask Dr. Porter her reason for selecting Sulphur. I regret very much that I did not interview her on this point before her death, because I feel sure that she made a study of the condition and had good homœopathic reasons for selecting this remedy. My reasons for this conclusion are because of her well known faith and practice of strict homœopathy, and because I had suggested other remedies to her, showing that she looked into the matter and selected the remedy she thought homœopathic to the condition. I have reviewed numerous old school works on ophthalmology to get their views in spontaneous dispersion and found only one, DeWecker, who recommended "pomades locally in cases showing a tendency to recede spontaneously. This is by no means uncommon." Other authors recommend surgical measures. None mention internal medication. Although these authorities do not mention the spontaneous recession of these cysts, we all know that they do recede spontaneously at times, and that all cases that disappear may not be entirely due to the remedy, yet my experience with this remedy has convinced me that it is the agent that has done the work, and I assure you that I am not easily convinced in this line from clinical evidence and always weigh the evidence carefully before accepting it.

---

25. VERIFICATION OF PRUNUS SPINOSUM.

BY JOHN L. MOFFAT, M. D.,

Brooklyn, New York.

Neuralgia oculi.—F. A. M., aged 40, a naval officer, October 4, 1883. Myopia, $^{2}/_{30}$, with — 5.5 R. V. = $^{6}/_{4}$, L. V. = $^{6}/_{3}$. Sn. 0.5, p. p. 14 cm. Reads Sn. 0.5 at 42 cm. (p. r.) with — 4. Muscæ volitantes, and oblique hemianopsia (of the outer and inferior quadrants) o. u. during the paroxysms of asthenopic neuralgia to which he is subject. A bursting pain in the r. eyeball, < on stooping. Retinal hyperæmia O. D. Prunus spinosum θ, on pellets, gave prompt relief.

April 17, 1884, reports occasional paroxysms, in either eye, which are at once relieved by the Prunus; he wishes to have it always on hand. I find no further mention of these pains in my subsequent records.

On May 20, 1892, his R. V. = $^{1}/_{60}$, L. V. = $^{2}/_{60}$. With O. D. — 5.5s. ⌒ — 0.5 c. ax. 180° = $^{6}/_{9}$, then $^{6}/_{6}$; O. S. — 5.5s. ⌒ — 0.25c. ax. 30° = $^{6}/_{6}$.

DISCUSSION.

Dr. Moffat: There was intense, agonizing pain in the eyeball, which he considered due to overwork, but medicine did give him marked and prompt relief every time, and the attacks became less and less frequent; he finally had his astigmia cured, and possibly it may have been that and not the medicine which permanently cured.

A FEW CASES FROM MY RECORD BOOKS APPARENTLY CURED BY THE SINGLE INDICATED HOMŒOPATHIC REMEDY.

GEORGE B. RICE, M. D.,

Boston, Mass.

THE following cases were selected because the beneficial results obtained seemed to proceed from the action of the single indicated homœopathic remedy, unaided by adjuvant treatment.

Case One. Mr. W. consulted me July 6, 1893. Patient tall, thin in flesh, light hair, fair complexion, nervous temperament, and in apparent good health; complained of taking cold easily, stuffiness of the nose in damp weather, sneezing and watery discharge, occasional attacks of asthma with his colds. Symptoms worse in the spring of the year and least troublesome during the summer months.

Examination of the nose disclosed the pallor and characteristic swelling of a general hyperæsthetic rhinitis, enlargement of the posterior portion of both inferior turbinated bodies and distinct polypoid formations springing from the right middle turbinated body. The patient was adverse to any operative treatment and he was therefore given Sabadilla 3x, every 2 hours. The cautery point was applied to the posterior hypertrophy. After this visit the remedy apparently indicated was prescribed from time to time, and a few applications of the cautery were made between the date of his first visit and August 25, but he had experienced little relief and the polypoid formations had increased. On this visit he was given Arsenicum, and I did not see him again for nearly a month. He returned October 28, complaining still of the stuffiness and sneezing. I again advised removal of the polypoid growths with the snare, and succeeded in persuading him to allow me to make the attempt. Two small polyps were removed from the anterior portion of the middle turbinated body, leaving one springing from the posterior portion of this structure. This he would not allow me to remove, either at this time or afterwards, although the first operation gave a certain amount of relief. On his next visit, two weeks later, the remaining polyp still being a source of irritation, and the patient again refusing operation, I prescribed Nitric acid 3x, a tablet four times a day. Three weeks later the polyp had entirely disappeared. A year later no recurrence, and general symptoms very much improved. Here Nitric acid

seemed to exert a quick and lasting influence upon this tendency toward polypoid formation.

Nasal symptoms of Nitric acid are: Violent coryza. Itching in the nostrils. Difficult nasal respiration. Sensation of fullness in the head, as if it were tightly bound in a vise. Ivins gives as one of the indications: Polypoid formations which bleed profusely.

I must confess that I had no keynote indications for prescribing this remedy, but its action was so marked that the case made a great impression on my mind.

Case Two. Mrs. U., æt. 48, of an extremely nervous temperament, consulted me November 29, 1899, complaining of attacks of hoarseness, tickling, irritating, strangling cough. From this she had suffered for some years at intervals, but the attacks had been so troublesome within the last two months that she was in a state of continuous unrest.

An examination of the nose, throat and chest showed nothing abnormal except enlargement of the lingual tonsil. Thinking this the source of irritation, the growth was removed in three sittings. The operation did not, however, give her relief, and so a month later she was given Magnesia phosphorica 3x, every three hours. She called me up by telephone a few days after this prescription, saying that the cough was much better. I told her to continue the remedy at much less frequent intervals. I did not hear from her again until eight months later, when she came to see me suffering from a severe cold with some asthmatic symptoms, and the old irritating cough. Iodine was given, and the acute symptoms relieved, but the cough remained. During the next month she made me three visits, and I prescribed Iodine again, and Sanguinaria nitrate, as some of her symptoms seemed to indicate. On the fourth visit, December 11, 1900, a week after the last prescription, I found the cough still troublesome; tickling, strangling, irritating, with occasional spasms of the larynx. Now gave her Magnesia phosphorica 3x, every two hours.

December 18th she reported the cough much better, Magnesia phosphorica continued. January 2, 1902, cough has disapeared entirely. I then gave her Magnesia phosphorica to keep in the house whenever this characteristic cough should return, to be taken frequently or less often as the occasion seemed to require. I have seen her on several occasions since, and she tells me that although the remedy has no influence upon her colds, yet it invariably quickly controls the tickling, irritating, strangling, spasmodic conditions which follow these acute attacks.

We find under Schuessler that the throat indications for Magnesia phosphorica are: Spasms of the glottis. Sensations of roughness in the throat. Spasmodic constriction of the throat when attempting to swallow liquids. Persistent semi-chronic cough of a nervous character. True spasmodic cough coming on in paroxysms without expectoration. Spasmodic cough at night, worse by lying down.

The reasons why I prescribed this remedy were: The extreme ner-

vous type of patient. The marked spasmodic symptoms with aggravation on lying down and the apparent freedom from localized inflammatory conditions.

DISCUSSION.

W. M. Stearns: Upon receiving a copy of Dr. Rice's paper I studied it carefully, also between the lines, thinking that I might find some little debatable ground. I find only ground for emphasis in the aplication of homœopathic remedies in most, if not quite all, cases that apply even to the specialist.

We are called upon frequently to operate with the knife, saw, snare or electrocautery or use local adjuvant treatment (I prefer to adhere to the term adjuvant), still I depend upon my internal remedies mainly in nearly every case.

When our nomenclature of symptomatology and general pathogenetic action of drugs has been revised to meet the greater knowledge of pathology, and also specialized to harmonize with our present knowledge of the eye, ear, nose and throat, we will be better able to prescribe intelligently and obtain better results than we have in the past.

When we learn from a better knowledge of the parts affected that a "foul smelling odor" from the nose is due to syphilitic ulceration in one case and needs a certain drug, and in another case is due to simple atrophic rhinitis and calls for an entirely different remedy, we will no longer grope in the dark, running up and down the scale of potencies because our homœopathic forefathers insisted that a certain remedy was indicated in a given case.

The strict adherence to internal prescribing by the man who has no special knowledge of the pathology or general conditions of the part affected often leads to lack of confidence in our law of cure. Hence we make the claim that the specialist is better able to teach and apply homœopathy in his particular branch and cannot do his patient justice if he depend mainly upon manual local treatment.

A physician once called at my office with his own diagnosis of polypi in his nose, occluding both nares, a condition claimed by him to have occurred several times before and had been cured each time by one dose of Calcarea carb. c. m.; the same physician was a voluminous writer to medical journals, and had reported many cases of cure of the same condition with the same remedy.

I found turgid turbinated bodies and no polypi, although the patient claimed to see them by means of a mirror.

Dr. Rice's case, however, was treated differently; a scientific knowledge of the pathology of the affection and of the general appearance led him to prescribe nitric acid, not for a supposed polypus merely, but for a disease that often results in the formation of polypi.

We well know the action of nitric acid upon tissue even in moderate

doses, a general destruction followed by effort to heal rapidly with much granulation.

We also find that most polypi in the nose form about diseased parts where there has been waste of tissue, and nature is putting forth effort to repair, as in antral and ethmoidal affections and caries elsewhere.

Hence what could be more rational than the homœopathic prescription?

The same drug in any potency would not have the same effect in polypi of different nature.

Only the definite knowledge of the affected part can lead to the most satisfactory result.

Charles H. Hubbard: A large, phlegmatic lady physician came to me to have polypi removed from the nasal cavity. I found such a deviation of the nasal septum that it was impossible to get the snare in to remove them. She would not consent to an operation. I then gave her Sanguinarin nitrate, third decimal, to take internally and to snuff up the nose locally. After using this a few weeks she reported that she had received so much relief that she would not permit herself to be subjected to an operation; and this condition went on until the present time, so far as I know, with no return of the polypi.

SOME CAUSES OF ASTIGMIA, AND THEIR TREATMENT.

E. D. BROOKS, B. S., M. D.

Ann Arbor, Mich.

SOME experiences that have recently come to me in the management of cases of astigmia have set me to thinking that perhaps we have sometimes begun to unravel the asthenopic skein from the wrong end of the thread, with the result that we have treated some such cases by attacking the effect rather than the cause. Since in the treatment of asthenopia, as is true of other ailments, the prime consideration is the discovery and removal of the cause, it behooves us to exhaust every reasonable measure to ascertain the underlying cause or causes in each case applying for relief. Our search will often be rewarded by the discovery that astigmia is one of the chief causes of the asthenopic symptoms, and that occasionally there is connected with the astigmia an insufficiency of one or more of the extrinsic ocular muscles, the interni being most frequently at fault. Having found such a combination, it is the teaching of the text-books, and the practice of many oculists of my acquaintance, to advise the wearing of the correcting lenses, with the expectation that the heterophoria may not give any further annoyance. In practice such a prognostication often proves correct, the asthenopia disappearing at the expense of servitude to spectacles. It is not generally taught that the same relief may be sometimes given by correcting the muscular imbalance, and that such correction may cause the astigmia to disappear, wholly or in part, the heterophoria being the direct cause of the astigmia.

There is also a growing belief that the ciliary muscle may and often does contract irregularly, the result being an astigmia of greater or lesser degree, such irregular contraction being caused by irritation or strain of some organ or tissue, possibly remote from the eye but reflexly connected with it, such as contact of opposing parts in the nasal passages or irritation of the sexual organs or of the lower bowel.

Thus our search for the cause of the asthenopia may lead us to the consideration of ailments in parts distant from the eye, bringing into requisition our knowledge of general medicine and surgery, or causing

us to refer the patient to the gynæcologist, neurologist or general surgeon or even the much neglected family physician, skilled in the selection of the homœopathic remedy.

The relation of cases from practice may be of use in illustrating the ideas of the writer and the circumstances which led him to assume that astigmia may sometimes be curable.

Case One. Mrs. N., about 25 years of age, was examined under mydriatic March 26, 1901, with the following result: Right eye: vision $=^{20}/_{30}$; with + 0.25 D. S. ⊃ + 0.50 D. C., axis 90° $=^{20}/_{20}$. Left eye: vision $=^{20}/_{30}$. With + 0.25 D. S. ⊃ + 0.25 D. C., axis 90°, vision $=^{20}/_{20}$.

She was furnished with glasses fully correcting the astigmia, and wore them with comfort. A month later, while treating her for a chronic nasal catarrh, I removed a septal spur which was pressing against the inferior turbinal, and treated her for about two months following.

A few weeks later she discontinued wearing her glasses, as she was more comfortable without them, but I did not have the opportunity to examine her refraction at that time. Nearly three years later, March 31, 1904, I again examined her refraction and found not a trace of the astigmia, each eye accepting a correction of + 0.75 D. S., with a vision of $^{20}/_{20}$. The hypermetropia was accompanied by a marked weakness of the interni, being able to overcome prisms of only eight degrees for distance. There was some retinal irritation and photophobia.

Suitable lenses were prescribed and I advised prism exercises to develop the weak interni and positive galvanism for the retinal irritation, but her husband opposed any further expense at that time and nothing has been done since to relieve the asthenopic symptoms.

There is nothing remarkable about the case except the disappearance of the astigmia following the removal of the septal spur, which indicates a relationship of cause and effect between the two, the intranasal pressure reflexly irritating the ciliary muscle and causing it to contract in an irregular manner.

Case Two. Mrs. A., about 35 years of age, while taking treatment for an acute otitis media, complained of frequent headaches from using the eyes for the near point. The apparent cause was discovered in an astigmia of one diopter in the left eye and an inability to overcome more than five degrees of prism, base out. The astigmic eye was slightly amblyopic, having a vision of $^{20}/_{30}$, with the best correction obtainable.

As she was very much opposed to wearing glasses, I determined to attempt the relief of the asthenopia by developing the weak muscles. This was done to the extent of enabling them to overcome prisms of 25 degrees. It not being necessary to longer continue the treatment of the ears, the exercises were discontinued at this point, and the asthenopia not fully relieved. An examination of the refraction at this time show-

ed the astigmia as well as the amblyopia to have disappeared, the vision being normal and the refraction of each eye + 0.25 D. S.

In this case the strain upon the weak interni probably caused the ciliary muscle to contract irregularly, through reflex irritation, the results being a lenticular astigmia.

I have not followed out other cases as fully as these, but in numerous instances have relieved asthenopic symptoms by developing weak interni in astigmic patients who were averse to wearing glasses, and unfortunately have not thought of ascertaining whether or not the astigmia was relieved. I shall follow out my investigations as opportunity offers, and would be glad of all the assistance you can give me.

It may be that we can formulate a course of action which will result in emancipating many of our patients from servitude to glasses, and win their enduring gratitude; a result worthy our effort.

DISCUSSION.

David W. Wells. The paper is one of unusual interest, and I am always glad to know of ways in which to cure the difficulty. I think we might admit that the asthenopia may be due to perhaps one of the two causes: if astigmia be present and also heterophoria, either one alone may be sufficient to give rise to asthenopic symptoms. The correction of heterophoria may be sufficient to relieve symptoms without curing the astigmia. In the cases quoted it will be interesting to learn by what means the refraction is worked out, so that we may know that the exact refractive error was determined. Was correct measurement of the cornea made, or was the case worked out under a cycloplegic?

Also another question: "How can there be a 'facultative astigmia' present in cyclopegia when the accommodation is entirely relaxed?

William R. King: In regard to the point which Dr. Wells has made, I do not see how lenticular astigmia could possibly survive under cycloplegia. However, the point brought out by Dr. Brooks in paper which struck me most forcibly was the fact that we undertake to unwind the skein from the wrong end. That has been so in a number of intsances, especially in those which are reflex. The reflexes travel in both directions, and unquestionably it is possible that heterophoria and especially exophoria may be productive of spasmodic or lenticular astigmia during the time when the eye is not under a cycloplegic; but in corneal astigmia, pure and simple, or when we can prove the presence of organic or absolute aberration in corneal curvature, I do not see how there can be any direct cause in the heterophoria for that continuing and permanent error in the curvature of the cornea.

Dr. Brooks: Speaking of cycloplegics, there are different ways of using them. My practice has not been to wholly paralyze the accommodation. I use in my practice the hydrobromate of homatropin, making two instillations, usually about half an hour apart, and wait for another half hour before proceeding with the examination. Where there is a marked difference between the refraction without and with a cycloplegic, I am not in the habit of fitting the patient to the glasses shown by the cyclo-

plegic, because I have learned that in nine cases out of ten you have to go back to what the patient will bear without the cycloplegic; for that reason I have not made a practice, as they do in some colleges, to paralyze the accommodation completely with atropin and then refract with the shadow test and give the absolute correction. I have seen that done, and done very frequently, in some of the colleges which teach ophthalmology; but while I have done that in a few instances in my early practice, I have learned it is not satisfactory. It may suit me splendidly, but if it does not suit the patient he comes back again, and there are another examination and another pair of lenses, to say the least, if I have not lost my patient and his good will. In this instance the examination under the cycloplegic as I used it, and the examination without it, practically corresponded, so I felt safe in fitting the patient to the indicated glasses.

I do not examine for corneal astigmia. I learned that the ophthalmometer is very deceptive, and it is not worth my while to invest money in a thing that is wrong as frequently as it is right. I use the various subjective tests almost entirely, unless I am sure that there is something I have not thus measured. I do not use a cycloplegic oftener than perhaps one case in twenty, because I give my patients better satisfaction when I do not use it. In a case where the patient will tell you three or four things within as many minutes, about what he sees with different glasses, then I think a cycloplegic is in order to relieve spasm; but where that does not occur, where there is a constant statement on the part of the patient that a certain glass gives relief from certain peculiarities of vision on the chart, then I adhere to that. In an instance like the first case noted I used the cycloplegic, as I said, and the result was practically the same as it was without it. I should not have mentioned it at all except to show that I was sure the astigmia was there. Whether I used the cycloplegic in sufficient quantity or strength, or a sufficient length of time to alleviate a lenticular astigmia, the result of strain or reflex irritation, I do not know, I do not think I did. If I had, the result would have been the relief of reflex irritation and ciliary spasm. I may be mistaken in thinking it was lenticular at all. The subject of my paper is something new to me. I have only begun the investigation, and did not present it to you as finished, but simply along the line of investigation, to see if we cannot save some of our patients, not all by any means, but occasionally one, from servitude to glasses and the expense connected with it. Some patients break lenses very frequently, and to them it is quite a serious matter, aside from the disfigurement it is to them. Some cannot wear nose glasses at all. Students and other young people especially very much dislike to wear glasses. I have to meet that constantly. My patients say: "If there is any way I can get along without wearing glasses I want to do so;" so I have begun trying in various ways to see if I cannot do away with the necessity for prescribing glasses. This is one of the ways I have used, and I shall continue my investigations along this line with the hope that now and then I can be useful to my patients in that way.

RADIUM IN EYE DISEASES.

A. B. NORTON, M. D.,

New York.

THE persistency of our President furnishes my only excuse for presenting such an incomplete and fragmentary paper.

Early in the year, in answer to his daily telephone messages inquiring as to what I should write upon, I finally said that I had just received some radium, and that if I got anything from it I would report it.

Radium is so well known to you all that we shall not waste any time in its history, but briefly refer to its use in eye diseases.

I have been able to find but very little in our current literature upon its use in ophthalmology. The first report was that of Javal, who, with Curie, studied the effect of radium rays upon the blind, and in April, 1902, reported in the *Bull. de l'Acad de Med. de Paris* that in a case of atrophy of the optic nerve and one of glaucoma there was no perception of light, but that there was in a case of detachment of the retina and one of blindness from blenorrhœa. Javal concluded that where the nerve was intact it was sensitive to the radium rays, and its use would be of service for diagnostic purposes.

Darier, who has written more upon radium than any one else, says in *La Clinique Ophthalmologique,* September, 1903, "that radium is a most powerful analgesic, relieving neuralgia, the pains of rheumatic iritis, traumatic iridocyclitis," etc.

He also says in the *Wochenschrift fur Therap. u. Hyg. des Auges,* VI., No. 53, that it gave complete relief in a case of specific choroiditis with stubborn periorbital neuralgia. In a case of extensive traumatic hæmorrhage into the vitreous that vision improved from one-tenth to one-third with a corresponding clearing of the vitreous. That two cases of retinal detachment and one of parenchymatous keratitis were unimproved.

In a note on the action of radium as an analgesic and nerve tonic in the *Lancet,* March, 1904, Darier says, radium preparations of low in-

tensity applied to a painful part are often capable of rapidly removing pain, say, of cyclitis or iridocyclitis.

London, in *Graefes Arch.*, LVII., H. 2, forms several conclusions as to the effect of radium rays on the visual apparatus, one of which is that by sufficiently long and energetic influence upon the eye, radium rays can excite in the different sections of the eye inflammatory conditions, *e. g.*, keratitis and retinitis.

The foregoing is a brief resume of all that I have been able to find recorded as to the use of radium in eye diseases.

Now as to personal experience.

Radium has been given a thorough trial by Dr. William H. King on one case of atrophy of the optic nerve following neuritis.

The last eye affected by the neuritis, but a few weeks previous to the treatment and in which the inflammation had not subsided, showed no improvement whatever from radium. The old eye, however, in which there was an atrophy following a neuritis of some two or three years previous, and in which the vision at the commencement of the radium treatment was $^{20}/_{100}$ difficulty, improved after six treatments to three of the four letters of $^{15}/_{50}$. Regular treatments were continued for quite a while longer but with no further change in either eye. It is now seven months since he began treatment, and the vision has held as above. This case was very surprising to me because the last eye involved in which I expected results, if any, received no benefit whatever, while the old atrophic nerve did certainly respond so far as the vision was concerned, though showing no change with the ophthalmoscope.

One or two oher cases of optic nerve atrophy have received one or two treatments each, but not sufficient to be of any value in our study of the action of radium.

A case of interstitial keratitis showed the most surprising response to the radium of all the cases on which it has been tried.

Miss S., age twenty-five, consulted me first on January 27th, with just a slight commencing infiltration of the cornea, which extended, and in about three weeks had involved the entire cornea. The infiltration was thickest at the periphery, the point of invasion, and was accompanied by a diffuse vascularity of the cornea at this point and extending down over about one-third of the cornea. The treatment up to this time had been atropin locally, and aurum mur. 3x internally.

The disease had steadily and rapidly progressed for about three weeks when the appearance was as described above and the vision had fallen

to the ability to count fingers at seven feet. The use of radium of 1-10,000 radio-activity was used three times a week, applied from four to ten minutes at each sitting over the closed eyelid, in addition to the treatment as before. Improvement was noticeable after the first few treatments with the radium, and went on rapidly, so that two months later the vision had improved to $^{15}/_{20}$ slight difficulty.

This in my experience is a rapid clearing up of an interstitial keratitis of the degree of this one, as represented by the vision of fingers at seven feet, and is the more surprising when you consider that the case was one of a young lady of twenty-five years of age. Ordinarily in patients of this age interstitial keratitis runs a very slow course, and instead of clearing to almost normal in two months we should not have expected that amount of improvement in two years.

The result was extremely satisfactory to me and particularly so because Darier had said, as quoted above, that a case of parenchymatous keratitis has not been improved under radium.

On the other hand Darier reports a case of traumatic hæmorrhage into the vitreous with a decided improvement under radium. I used it thoroughly for a month in a case of fresh hæmorrhage into the retina with no benefit whatever.

One case of immature cataract was treated at my request by Dr. W. H. Dieffenbach, and the treatments followed up carefully and thoroughly for several weeks with no apparent change whatever.

Radium has also been given a trial in quite a number of other diseases of the eye with almost universally a good effect at first *so far as the patient's opinion was concerned,* but in none of these cases could I detect the slightest benefit. These treatments were at the time the public press was filled with sensational stories as to the wonderful properties of radium, and I attributed the good results to the patient as psychological.

To be sure my experience with radium so far has been very liimted. I have not tried it to relieve pain, have not used it in trachoma, where, from the results with the X-ray, it should be of service, in purulent conditions of the eye, or quite a number of other conditions wherein it may have a field.

I shall hope to do so in the future, and may be able to report in a subsequent paper more thoroughly than has been done in this.

My general impression, however, is that we shall find the sphere of radium in eye diseases rather limited.

DISCUSSION.

W. H. King: So far as diseases of the eye are concerned I have but very little knowledge concerning them, and my discussion here to-day will have to do more with general considerations and general theories in regard to the way that radium should act.

Radium gives off three kinds of rays: One of them is comparatively a very coarse vibration; it is almost like the ultra-violet ray. Another is further up the scale, consisting of much finer vibrations; perhaps it is a little below the X-ray. The third is very much finer, probably, than the X-ray.

The only three properties that this ray might have in the diseases spoken of in this paper are, first, that by those very fine vibrations (or the different vibrations—perhaps it is one, perhaps it is the other) it is capable of overcoming a certain amount of resistance in atrophy of the optic nerve and of stimulating the ordinary nerve action. We know that in many cases electricity administered through certain nerves will overcome an obstruction in the nerve; that it will bombard it, as it were, and carrying itself through the nerve will increase the conductivity of that nerve. Now it may be possible in atrophy of the optic nerve, especially when that atrophy has reached the point where there is a real obstruction (not congestion), that one of these three rays will have such an amplitude and rate of vibration that perhaps it corresponds with the capability of the nerve current, that is, of vibrations of the nerve, and thereby re-establish the ordinary or normal nerve current of that nerve.

Another action of radium is that it increases, it stimulates circulation. It would increase congestion, and consequently be not only of no use but it might be of damage in cases of hyperæmia or inflammation.

Another action it has is setting free ozone. It not only sets free ozone upon the surface but it sets free ozone wherever those rays penetrate. In a specific or plastic choroiditis it may thus affect the deposit or exudate.

This could be due, however, to increased circulation increasing the nutrition to the point that it builds up the tissues and carries away deposits in that way. Fourthly. We all know its germicidal action.

Radium is one of our greatest remedies in healing old indolent ulcers and ulcers of specific origin. These combined actions—stimulation, increased circulation, ozone or antisepsis—which we know of now are apt to take place in any condition of the eye, it seems to me, because the ray is capable of penetrating through even opaque substances. Now just how this can apply in the various ocular diseases I do not know.

In reply to question: The high frequency current has not the penetrating power of radium. Ozone is set free in all tissues that the radium ray penetrates; the high frequency current penetrates but very slightly

below the skin; in fact, we do not know whether it penetrates deeply; we do not know whether it sets anything free below the skin. The violet ray sets free more ozone than does radium, but not so much as does the high frequency. The penetrating power of the violet ray is comparatively very slight, indeed, compared to the penetrating power of radium, so far as our knowledge now goes; it is greater than that of the X-ray.

One authority states that radium has a much greater physiological action. One of its rays is very much more penetrating than the X-ray and very much greater in physiological action. For instance, it will penetrate through the skull and by irritation of the nerves or centers of vision produce flashes of light; the X-ray will not. It will also affect the nerve centers of smell and taste. If held for a short time on the back of a guinea pig's neck it will cause the death of the guinea pig. The X-ray has not those actions; it has not the penetrating power.

David W. Wells: I would like to ask Dr. Norton to tell us a little more fully the details of the way radium is used.

A. B. Norton: I have very little to say as to that, because I know very little. Dr. Dieffenbach, who is a specialist on these rays, treated that case thoroughly and systematically for three months with absolutely no improvement in vision and no improvement in the lens.

I have never used the high frequency in cases where I used radium. In fact, my experience with radium has been extremely limited. There is only one case in which I felt I really got any results, that was a case of interstitial keratitis. This case cleared up in about two months from the beginning. In a person of this age, twenty-five years, that is a very rare thing. Usually it is tedious and long-lasting. I commenced the treatment with radium about the seventh week. She was under this treatment only about one month, and got a decided clearing up of the cornea and the whole condition. It was very surprising to me. All my other cases were practically unsatisfactory. I tried it in a great number of cases and the patients said they were feeling nicely, but I think that was all due to the mental effect of having radium.

In answer to Dr. Wells's question, will merely say I had a tube of 1-10,000 radium activity, the tube containing 1-10th of a gram. The price was about fifty dollars at that time; and I treated this case of interstitial keratitis about three times a week. The patient came to my office and held the tube directly in contact with the eyelid (the eye closed) for a period of five to ten minutes, holding the tube with the fingers.

John L. Moffat: Do you need to protect your fingers?

Dr. Norton: I did not. I commenced with five-minute treatment and gradually worked it up to ten minutes, and have had no reaction from it at any time, nor any sense of discomfort or pain.

WEDNESDAY, JUNE 22, 4 P. M., AT THE CATARACT HOTEL.

A DEMONSTRATION OF THE USE OF TUNING FORKS IN AURAL DIAGNOSIS.

HOWARD P. BELLOWS, M. D.,

Boston, Mass.

IT occurred to me that while there is probably nothing which I could offer which would be of any value to aurists or which would be different from what they know already and practice daily, there are some in our Society who are treating the nose and throat primarily and taking aural cases in connection with these; or treating the eye and taking the ear in connection with it; and these perhaps, would be able to treat their cases a little more intelligently and make their diagnosis more correctly if I should go over the ground which is customary with those of us who are aurists.

In the first place, regarding the series of forks, there are seven in common use, most of us having added the seventh within the last three or four years. We begin properly with the fork which is called C, which has 128 vibrations to the second. This which I hold is provided with a round, flat base, so that the vibrations are more easily perceived when the fork is in contact with the head.

Then, ranging above this, we have a C1, which has double the number of vibrations, that is, 256 vibrations per second. That is a much stronger fork in vibrations; the vibrations last much longer. All have clamps to prevent the over-tones; otherwise you will get shrill over-tones, sometimes two or three over-tones, which confuse the patient and make his replies unsatisfactory.

Then there is C2, which is an octave higher; C3 is an octave higher than that; and then we go either to the fourth C, or, more commonly, to F, giving 2,860 vibrations per second. That is the highest we get from the ordinary fork.

Now, going down from the C, we have the first or sub-C, C minus 1, which has only 64 vibrations per second. There are several types of this fork and of the others which I have mentioned, some large and

some small, but I have brought here those which I use every day and patterns which I have found most convenient to handle.

This Dench fork, by means of a very heavy clamp, will give a C in the second sub-octave of 32 vibrations per second. It goes down, if desired, to 26 vibrations, which is about the lowest note which can be appreciated by the normal human ear. That corresponds to the lowest pedal diapason of the organ, but by sliding the clamps it can be made to give any note of anywhere from 26 to 64 vibrations. This is done simply by sliding the clamps.

Now, in regard to the mode of holding these forks. This is a simple matter, yet I want to speak of all these little things. The classical way is to hold it thus, horizontally, with the ends of the prongs pointing to the ear; but it is just as practical to hold it vertically like this, only the ends of the prongs must be held at equal distance from the ear. So much for the simple use of the fork and the series of forks which we commonly use.

There are cases where there is a partial nerve deafness, where there is something lacking in the structure or function of the labyrinth or fibres of the auditory nerve. These cases we test note by note; but I am going now more into ordinary office usage. One point to keep in mind is that fork tests must always be used in connection with other tests, else they are not positive, or might even be misleading. First of all, before you test with watch, voice or forks, be sure that both auditory canals are absolutely clear. So that first point is to use the speculum and mirror. If anything whatever is in the way of perfect sound transmission, remove it carefully, but it is well in doing so not to fuss the ear up too much, else you get a less accurate perception of sounds. Then apply the watch test, bringing it up closer and closer in the usual way until you get the sound twice at the same distance. In that way you estimate approximately, for recording, the degree of hearing for mechanical sounds. Unless you do that you cannot rightly interpret the fork tests in some cases at all.

Next it is well, if you are thorough, to make the vocal test, putting the patient away as near twenty feet as you can and trying either the loudest, the lowest, or the medium whisper, so that you can reproduce the same whisper on successive trials. If, then, as the result of these preliminary tests, you find that the watch is heard comparatively well but the voice very poorly, you have at once reason to suspect that the deafness is due to some trouble in the conducting portion of the

ear which is likely to be of a catarrhal nature. If the converse is true, the hearing for vocal sounds being relatively better than for mechanical, you have reason to suspect that the nervous structure of the ear, the sound perceiving portion, is at fault. After determining the degree of deafness and the probable condition, in a general way, by using the watch and voice tests, it is well to begin in applying the fork tests with the so-called Weber test, which is made by placing the fork C or C1 upon the vertex and asking the patient whether the sound is referred to one ear or the other, or whether it is simply heard on the top of the head. With persons whose powers of observation are untrained and with children much difficulty may be experienced in getting a reliable answer to this question. If they believe one ear to be better than the other they answer from the mental conception that they hear the fork the best upon that side, when in reality the exact opposite is the case. Such patients have to be told that it by no means follows that they will hear the fork best in the best ear when it is so held. They have to be shown that stopping the ear with the finger, upon either side, makes the sound louder in that ear instead of the reverse, which always surprises them. Thus, after patient education of their observation alone do you get an answer which you believe to be reliable and accurate. Now, if the fork vibrating on the vertex is heard alike on both sides, it means the ears are practically alike, either normal or both diseased to an equal extent. If, however, the sound is referred distinctly to one ear or the other, the external canals being equally free, you have one of two interpretations necessary. One is that the side upon which it is heard the plainest offers some obstruction in the middle ear so that the sound-waves do not pass readily outwards through the ear but are reflected inwards again, either from a rigid stapes in the oral window, from thickening of the round window, or, still more, from thickening and rigidity of the drumhead. The auditory nerve upon that side, therefore, gets an impulse from the waves going out reinforced by others reflected inwards, and for that reason the sound seems loudest upon the worst side. The other interpretation is that the sound is heard best on one side because the nervous structure is defective upon the opposite side. So it means trouble with the middle ear, usually of a catarrhal nature, on one side or a defective nerve on the other. Already you have some idea as to which it is from the appearance of the drumhead, and from the watch and voice tests, and this fork test adds to your knowledge of the condition and your feeling of certainty

in diagnosis. You record the result as "Weber in sound ear" or "Weber in defective ear," and are ready for the next fork test, which may best be the Rinne's test, so-called.

This is made by placing the vibrating fork on the mastoid and asking the patient to signify when it is no longer heard, then bringing it in front of the ear and asking if it is again heard. If yes, Rinne is said to be positive; if no, negative. The interpretation, if positive, is dependent upon the degree of deafness present. It ought to be heard best in front of the ear, by air conduction, in normal ears, but if it is still heard best in front of the ear with a defect equal to something like 2-3ds or 4-40th, or a fraction equivalent to that, it means in almost every case nerve deafness. The contrary result, hearing best by bone conduction, points to an affection of the middle ear, usually catarrhal, and this irrespective of the degree of deafness. Just in this connection is a side issue. You may have extreme deafness on one side only, and when you touch the fork on the mastoid of that side the patient hears the sound and hears it plainly. Now the question is, is there a vestige of hearing on this side still? or is it all heard on the other side? To determine that you alternately stop and open the ear on both sides and ask the patient if doing so makes any difference to the sound. If it makes a difference when done on the opposite side, and none on the same side, it indicates that the fork is heard in the good ear and the poor one may be even totally deaf so far as this test is concerned. Thus by the Rinne test you again add to your knowledge of the seat of the trouble, whether it is in the middle or internal ear.

Conjoined with these there is another test which is made every day, and that is the determination of the limits of tone perception. First we run down the scale, trying first C, then the C—1 of 64 vibrations, and then the Dench fork of 26 vibrations. If the lowest tones are lost, so that, for instance, the C of 64 vibrations is not perceived, it points very plainly to an affection of the middle ear. You now run up the scale from fork to fork until you get that of 2,860 vibrations; but that is not sufficiently high for nice diagnosis. A few years ago we used to stop there, as we used to stop with C. We have gone two octaves below, and we have gone much higher, taking it to the highest appreciable sound, as the Dench fork takes it to the lowest. This highest test is made by means of the Galton whistle. This has a simple arrangement so that we can read and record to an exceeding nicety just the position in which it is first heard, as we descend the

scale from the highest appreciable tones. Now there is a little point here, the same as there is in holding the forks, and that is, when you hold this, turn the little slot or opening upwards so that the air does not blow directly into the ear. There is one confusion anyway, which is the blowing sound which the patient usually hears from this instrument. They differ greatly in this respect. If you are an aurist you will be looking up Galton whistles as you look up a specimen in natural history. I cannot tell how many I have bought, and this is the best one I have had yet. I tell the patient to note the blow; they say, "Yes, there is the blowing sound." Then I say, "When you get a little shrill whistle in addition to the blowing sound, let me know." Then I run down the scale until they reply, when I turn it back once more and try again. As with the watch test I do not set it down in my records until I get it twice in the same place. If there is an appreciable lowering of the upper tone limit it points to an affection of the internal ear with nerve defect.

Thus far we have the tests for mechanical and vocal sounds by the watch and voice, Weber's and Rinne's tests and the determination of the tone limits. Now, there are cases which puzzle us in which we want tests still more exact. I refer to that known as Schwabach's experiment, not often used, but one which may help to clear up the diagnosis. A fork which vibrates strongly for a long time like this C1 is placed on the vertex, and at the same time you put it there you start your stop watch and tell the patient to tell you when the sound is no longer heard. Try it twice or three times if necessary, until you get it twice in approximately the same place. This fork should be heard normally, say, 20 or 25 seconds, in that position. If, now, in the case in question, it is heard only ten or twelve seconds in the defective ear or ears it means, ordinarily, that the trouble is in the labyrinth, but if it is heard thirty-five or forty seconds, that points decidedly again to an affection of the conducting portion of the ear, usually middle ear catarrh. In the former case we record "Schwabach shortened," and in the latter "Schwabach prolonged."

Again, sometimes when you know that you have cleared up the fact that the trouble is in the middle ear you want to determine whether in the course of the general thickening of the drumhead and ankylosis of the ossicular chain the stapes has become immovably fixed in the oval window. The experiment of Gelle is used for that. That consists in fitting into the canal of the ear the tip of your Politzer bag; if that

fits sufficiently closely, or, what is perhaps still better, the Siegel pneumatic speculum. That being in position, hold your vibrating fork C1 over the vertex, or over the mastoid of the same side, and compress the air at the same time in the external canal. The compression of the air in the normal ear lessens the hearing capacity. In the given case the sound of the fork may be lessened or it may not be affected at all. If it is lessened it shows that at least the foot-plate in the oval window is still movable; but if it is not affected at all it is pretty positive proof that it is ankylosed. In the former case we record "Gelle positive," and in the latter "Gelle negative." So you can thus extend your diagnosis to the oval window and to the freedom or immobility of the stapes at that particular point.

The test which I adopted for our drug-proving is something entirely different from the foregoing. We will not take much time for that, because it was devised for a specific purpose. I will only say that the idea which led to it was the securing of a degree of accuracy for recording which is not found in any of the tests previously shown, for the reason that you cannot surely strike a fork twice alike, even if you have a spring, and thus you do not attain strictly accurate results. If you reckon from the instant when the fork ceases to be heard it is much more accurate, so I make my records by timing from the cessation of the vibration instead of from the beginning of the vibration. These records refer to increased or lessened bone-conduction, and there is always a measurable period since, if your own ear is normal, you can hear the fork quite a little time by air conduction after it has ceased to be heard on the mastoid of the person under examination. The number of seconds during which you can hear the fork in normal cases after leaving the mastoid, by your own air conduction, previously determined, becomes the denominator of a fraction and is a fixed quantity. The number of seconds during which you can hear the fork in the case under examination after it has ceased to be heard on the mastoid is made the numerator of a fraction, and this is a variable quantity. The fraction thus found records the degree of hearing by bone conduction in the given case, and is interpreted in inverse ratio. The seconds are estimated by a stop watch. It is a method, and so far as I know the only method which can be advanced for recording variations in bone conduction with reasonable accuracy.

Another use of the fork has been called to my attention, since I arrived here, by Dr. Bissell, which is in vogue just now among the

specialists in Buffalo and in this vicinity. It is a test based upon the fact that if there is pus in the mastoid the perception of the fork when held on the mastoid is dimmed in its clearness and lessened in its duration. If you are called to a case where you suspect mastoid trouble and get such a response from this test, I do not think it has any practical value at the first examination, because there may be chronic changes in the mastoid giving rise to the variation present, but as a comparative test, from day to day under the same conditions, I can see that it may be very valuable. That is all I have to say.

DISCUSSION.

John L. Moffat: I would like to ask Dr. Bellows about the value of taking the relative time each fork is heard after transference. I have been doing that for some time, because I am satisfied I cannot always strike the fork with the same force. Has he found no way in which we can manage by springing or dropping a bar or bullet upon the fork, thus obtaining a uniform force analogous to the acoumeter? I do not think we will have anything scientific in regard to forks until we have the definite stroke.

Dr. Bellows: I have thought of that and there are several ways in which it may be accomplished. Dropping the ball is feasible, but you have to adjust your fork every time to get the same fall, and by the time you get it ready to apply the best vibrations for your diagnosis are lost, you have only the last end of them. Better than this is a spring with a lever which goes back a certain distance only. Still better is an attached hammer on the principle of the acoumeter, which can be raised only to a certain height; that can be arranged in a number of ways. That would give a value to the fork vibration which could be measured from the inception of the stroke; but for practical purposes the method I employed in the drug-proving does just as well and is less cumbersome.

Dr. John L. Moffat: That takes for granted that your ear is normal; my ear is below normal and my wife's is above normal; and how am I to be sure?

Dr. Bellows: It makes no difference so long as your ear does not change from day to day; it makes no difference to the accuracy whether your hearing is acute or not acute, so long as it is sufficiently good to hear the fork a few seconds after it leaves the mastoid. If your hearing varies perceptibly from one day to another then the test becomes inaccurate.

THROMBUS AT FLOOR OF FOURTH VENTRICLE OF BRAIN—A CLINICAL CASE.

A. WORRALL PALMER, M. D.,

New York.

MISS F. W., æt. 23 years. Neuro-bilious temperament, healthy, athletic and very energetic individual. Family history exceptionally good.

In childhood had the usual children's diseases and a severe attack of typhoid fever. Menstruation commenced at thirteen years; quite normal until about twenty years, when from overwork at college a severe dysmenorrhœa supervened accompanied with neurasthenia and hysteria. The latter two were cured by a European trip and the dysmenorrhœa was relieved while taking Lydia Pinkham's remedies.

During the winter of 1902-'03 she again overworked at college, straining her eyes so severely in microscopical examinations in her biological study that her eyes would remain red and lachrymate as if crying for three or four hours after use.

Spring of 1903 patient greatly run down. In April appendicitis was diagnosed, supposedly chronic, of two or three years' duration.

April 29, '03. Appendectomy performed. The appendix, a bag of pus, 5 inches in circumference, with walls ¼ inch thick, was adherent to the cæcum and surrounding peritoneum. The opening into colon would admit three fingers. On account of complications external wound was not closed, fearing fæcal fistula, which did occur on the third day, but which strangely closed without surgical aid on the 6th day.

The temperature ranged from little over 104° F. to 100°, with other characteristic symptoms of severe septicæmic poisoning.

May 16th. Progressing very well.

May 18th or 20th. Nineteen or twenty-one days after operation patient was suddenly attacked with the following symptoms:

Sudden total amplyopia in O. D. ptosis O. D.,—continuous vomiting for two weeks, only small amount of egg albumen being retained,—excruciating pain in head, necessitating strong opiates, probably commencing in occiput, proceeding to sinciput; during the exacerbations

marked nervous spasm involving whole body, followed by syncope, of one to ten minutes' duration(time reported by trained nurse, probably not exaggerated).

The attacks continued from three to eight a day in varying severity right along from the above date. On account of the temperature, pulse, urine, etc., being normal, the diagnosis of hysteria was made. The severe pains being met by opiates, general tonic treatment—the hysterical condition to be combated by persuasion, or rather non-attention and non-sympathy, and sometimes she was forcibly shaken for the attacks of syncope.

About June 15th an oculist examined eyes, but reported them to be normal.

The left eye was not affected until about July 1st, the amblyopia in this coming on gradually, appearing in short periodic attacks.

Personally having known the girl about seven years, that she was intellectually strong, active, athletic and non-hysterical, I could not imagine how a person of her caliber would simulate total blindness in one eye and partial of the other, and such extreme invalidism, being unable to walk a step without assistance.

We being at same summer resort about July 20th, I was asked to prescribe for a supposed dyspeptic attack.

Now was my opportunity to investigate the case myself.

At this time the following symptoms were elicited: The history of sudden accession of blindness, excruciating pains, etc., etc., as given above. O. D. total amblyopia from commencement. O. S. normal until about July 1st, then occurred intermittent amblyopic attacks, becoming progressively longer in duration and at shorter intervals (as if gray film came over other eye) until about August 10th, vision was totally lost; inco-ordination and weakness so couldn't walk unassisted; partial deafness or right ear and tinnitus (as of cockle shell), aggravated lying down; partial anosmia and ageusia, only the stronger odors and flavors recognized; constant dull pain in base of brain and right frontal region, with frequent excruciating aggravations, extending all over the head, but principally into eyeballs, which feel as if would bulge out of orbits or burst, this exacerbation accompanied with drooping of lid, peculiar increased staring appearance, spasm of muscles of left side of face and nausea with vomiting of mucus, food or bile (these attacks have occurred since latter part of May, becoming gradually less severe): eyelids heavy, eyeballs protruding, pupils greatly

dilated and react neither to sudden appearance of threatening object before eye, nor to strong light; intense dysuria accompanied with trembling spasm over whole frame; neuralgic pains in right mastoid region at first, but of late these are shifting to left mastoid; partial paralysis of both right arm and leg; frequent neuralgic pains in right leg; right knee-jerk lost and left one weak; sensation as if feet did not belong to her; spines of the 7th and 10th vertebræ prominent, while the 8th, 9th, 11th and 12th dorsal and first lumbar apparently slightly depressed; a few attacks of nausea each day independent of those accompanying spasms mentioned above, always one about 5 A. M.; constant bad taste in mouth.

Upon reflection I concluded there must be some central cause for these varied phenomena, some irritation or pressure at the roots of the nerves, probably thrombosis, embolus, gumma or other tumor in the fourth ventricle.

The patient's father having been assured by the surgeon and two or three consultants that it was purely a case of hysteria, it took me two weeks to persuade him to allow an ocular examination to be made, which I felt would shed a great deal of light upon the condition.

On August 9th, Dr. R. M. Andrew, N. Y. C., who was at the same resort, examined her eyes and found the following:

Both eyes protuberant. Pupils dilated, do not respond to light. Lack of muscular co-orpination worse in O. D. Marked anæmia of retina. Retinitis hæmorrhagica pronounced. Hæmorrhages dark (venous). Scarcely any perception of light, practically no vision; choked disk. O. D. increased tension. Knee reflex slight in left, none in right.

Subjective Symptoms.—About nineteen to twenty-one days after operation attacked witht very severe pain in head. About same time commenced to be subject to nervous spasms and attacks of unconsciousness, which nurse said lasted from one to ten minutes, also attack with continuous vomiting. This continued two weeks. Ptosis O. D.

Diagnosis.—Embolism in floor fourth ventricle.

Treatment advised, either arn., apis mel., ham. vir., kali iod.

This was so diametrically opposed to the former consultation, the father naturally wanted another ocular examination, and August 12th, Dr. F. E. D'Oench, New York City, was called, whose report was, "Pupils do not respond to light, dilated almost ad maximum, large

retinal hæmorrhages in both eyes upon and around optic nerves, some whitish exudation, smaller hæmorrhages in periphery, veins tortuous.

Diagnosis.—Thrombosis of central retinal vein in both eyes.

I endeavored to get the doctor's opinion, what caused the whole train of symptoms, but he judiciously waived all such inquiry.

About this time the left eye, in which vision was first affected about July 1st, became totally amblyopic.

Now thought the advice of a neurologist necessary, and on August 15th, Wm. Harvey King, M. D., New York City, Dr. Andrew and myself, consulted, when following were noted upon examination:

Slight cutaneous anæsthesia all over, principally of right leg and both soles of feet; all cranial nerves very hyperæsthetic; pressure over spines of cervical vertebræ causese pain in head; patellar reflex lost entirely; descending degeneration; no atrophy of any one group of muscles; paralysis of right external rectus.

Diagnosis.—Thrombosis in floor of fourth ventricle, which had formed slowly.

Prognosis.—If due to exhaustion of the nerves favorable, but if to dryscrasia not favorable. Very strong probability of being due to latter. Both oculists at previous examinations gave no hope of regaining sight because of the extent of optic nerve atrophy.

Dr. King advised a thorough urinary examination, so twenty-four hours' urine was sent to Dr. G. F. Laidlaw on August 20th, and following is excerpt of his report:

Specific gravity = 1008.	Reaction = neutral.
24 hours' quantity, 36 oz.	Solids = 20.5 gram.
Albumin = faint trace.	
Urea = 6 gram.	Chlorides, 6.6 gram.
Phosphoric ac. = 0.7 gram.	Sulphuric ac. = 1 gram.
Crystals = oxalate of lime, few.	
Casts = hyaline, moderate number.	
Corpuscles = pus few; blood scanty.	

Diagnosis.—This is a case of interstitial nephritis, probably chronic in character. The low specific gravity, scanty quantity, very low urea (one-fourth normal) and total solids (one-third normal) with constant presence of hyaline casts are diagnostic, etc., etc.

Treatment.— Belladonna 3 and 30, relived the pressure in eyes, exophthalmos and rigidity of dilated pupil. Byronia 3 aggravated the eye symptoms as well as headache and nausea, while bryonia 30 sub-

sequently relieved the subjective symptoms. ℞. Wyeth's Lithia gr. xv per diem.

August 19th. Menstruation, first since operation, preceded by the usual cramps; otherwise just before menstruation eyes appeared better and many of subjective symptoms ameliorated; but just as soon as flow commenced they returned with renewed severity, with subsultus tendinum especially of the extensors.

August 25th. In order to rid the system of the urea a course of hot baths in accordance with Dr. A. H. Laidlaw's method were commenced. This is supposed to relieve the kidneys by carrying off the urea and other secretory materials of the urine by exosmosis through the skin. At beginning used bath 98° F., body submerged twelve minutes; at subsequent baths the temperature was increased gradually to 110°, and time lengthened to twenty minutes, after which patient was put in bed under several blankets for a couple of hours to maintain perspiration. Immediately after the bath the patient was very exhausted, but after a few baths the general condition improved considerably. This procedure apparently benefited the patient more than any other one therapeutic factor.

Potassium iodide, gr. iii to vii, t. i. d., was tried without apparent decided effect.

About August 5th, the vomiting was almost immediately stopped by a rather odd procedure. As the constant periodic vomiting at 5 A. M. (the worst attack of the day) occurred when the stomach was empty and immediately after the nervous system is at its lowest diurnal ebb, and the other attacks usually occurred before a meal when stomach was empty, I thought the stomach resented being idle, so had a glass of malted milk given at midnight and between each meal, with the result of stopping the vomiting within about seventy-two hours, which had existed since onset of thrombus.

Another measure very worthy of note was the administration of the infusion of French wild cherry stems, cupful t. i. d., which was given on Dr. King's recommendation. The three days previous to administration the diurnal amount of urine excreted was 23, 27 and 20 oz., respectively, while the first ten days of administration it was 23, 41, 36, 33, 38, 54, 65, 57, but on the other hand, the amount of urea and solids excreted was only slightly increased as demonstrated by Dr. Laidlaw's examination.

August 21st, examination.	October 12th, examination.
Specific gravity, 1008.	1008.
24 hrs. quantity, 36 oz.	52 oz.
Solids, 20.5 gram.	28 gram.
Urea, 6 gram.	7.1 gram.

Dr. Laidlaw held to his former diagnosis. On October 14th urinary examination was made by a Dr. A. Murray, Brooklyn, N. Y., with virtually the same chemical and microscopical findings, but his diagnosis was a normal kidney.

On September 16th, consultation with Drs. W. H. King and John L. Moffat was held. Dr. Moffat's ophthalmoscopic examination showed "evidently increased hæmorrhage in right disc," otherwise findings virtually the same as former examination.

October 20th. The friends of the patient decided that homœopathy was too slow, so an allopathic physician was called in, who agreed that there was a hæmorrhage in the fourth ventricle, but asserted that the kidneys were absolutely normal. As far as I can tell they gave the patient the usual tonic treatment of strychnine, etc.

I saw the patient about ten days ago and was astonished and gratified to find she had regained some of her former vigor and considerable flesh; she still needs a little assistance to walk.

The hearing, taste and smell are a little worse; the exophthalmos and the dilated pupils have disappeared, eyes appearing the same as are seen in cases of blindness. There was no pain. Perhaps Dr. Moffat can add something, as he was called in consultation.

DISCUSSION.

J. L. Moffat: I can add practically nothing. I first received a letter from Dr. Palmer when he was in the country, and wrote back that the symptoms looked like fourth ventricle hæmorrhage. There was no hysteria about it at all; the patient was very courageous through all her sickness; I am surprised to hear now that she is so well. I believe that she has chronic nephritis, although it may appear checked for a time. I do not think she will ever see again.

SYMPTOMATIC HÆMORRHAGE FROM THE MUCOUS MEMBRANE OF THE UPPER RESPIRATORY TRACT.

DUDLEY WRIGHT, F. R. C. S.,

London, England.

HÆMORRHAGE from the mucous membrane of the nose or throat as a result of ulcerative processes is common, and that occurring in the course of the growth of naso-pharyngeal or nasal sarcomata is also well known, but there is a third class of bleeding which is occasionally encountered and often misunderstood, and to which I have given the term "Symptomatic Hæmorrhage;" by this term I would define all those cases which are due to diseased or disordered state of the blood or blood-vessels.

The underlying condition is usually an arterio-sclerosis, and the high blood pressure which is so commonly found in conjunction therewith. The bleeding may, however, be only the outcome of sudden or prolonged increased blood pressure without the association of any marked changes in the vascular walls, and finally, it may be due to the giving way of some localized varicose or dilated blood-vessel.

The writer has met with cases illustrating all the above conditions, and some particulars will be given in the following lines:

A middle-aged gentleman of marked gouty tendency with obvious arterio-sclerosis complained of frequently occurring attacks of bleeding from the throat. He had been under the treatment of a specialist, who, having found a bleeding spot on the left lateral aspect of the pharynx close to the posterior palatal fold, had cauterized the spot. This had rather caused the increase of the trouble than otherwise.

Examination did not reveal any ulcerated spot, but there was a scar at the site of the cauterization. The vessels of the pharyngeal wall were plainly visible, and were evidently thickend. There was cardiac hypertrophy and dilatation, and the radial artery was thick and tortuous.

The treatment adopted was more with a view to remedy the vascular degeneration than anything else, and there was, as a result of this,

some decrease of the bleeding, which occurred once every six weeks or so, and always apparently from the same spot.

The progress of the case was a steady down hill one. The arterial trouble increased, cardiac asthma supervened, and within eighteen months the patient's heart failed to keep up the pressure sufficient to ensure efficient renal action, and death soon closed the scene.

This case was the first of this class of trouble that I had seen; it occurred a good many years ago, and I do not hesitate to say that for some time I failed to gauge its significance. I learned from it, however, a lesson which has been very useful to me ever since, and the knowledge thereby acquired has enabled me to appraise at its true value this combination of symptoms. Whenever we meet with hæmorrhage from the mucous membrane of a middle-aged person, there being no obvious ulcerative process to account for it, our suspicions should be aroused, and we should seek for evidence of high arterial tension and vascular degeneration.

High arterial pressure alone in the case of young adults may in itself be sufficient to cause this kind of bleeding. I have met with two or three such instances, and I have an idea that cases of so-called vicarious menstruation, in which in the absence of the regular menstrual flux a bleeding occurs from the nose, throat or ears, will be found to have an origin in a sudden variation of arterial pressure.

The following case is interesting in this connection. A lady, age 31 years, consulted me for bad headaches and frequent nose bleeding. The former she had been subject to since childhood, the latter for the last three months, during which time she had suffered from no less than twenty attacks. The headaches last the whole day and are accompanied by a copious urinary flow. She is always worse in cold, damp weather. Periods very profuse and painful. Much constipation. No vertigo. Gets bouts of sleeping badly, waking up early in morning. Pulse 54, highly irregular; marked high tension. The nasal condition was practically normal. Benzoic acid 2x, grs. iij, ter in die, ordered. In a month not any change, still nasal bleeding. Occipital headaches bad, constantly waking with them. Sodæ benzoatis 1x, grs. v, t. i. d. ordered, and bryonia 3x for the headaches if very bad.

In three weeks she reported herself very much better. Only one bleeding and much less headache. I found out at this time that she was in the habit of taking a quantity of salt, and that she was in the habit of taking about with her some rock salt crystals which she fre-

quently sucked. Of course, this was stopped and the benzoate of soda continued. In another month I saw her again and she had had no further nose bleeding, and the headaches were infrequent. The tension of the pulse was also less.

The patient continued treatment for another eight weeks without further bleeding, and by this time she was greatly improved in health and could walk and take other exercise without bringing on the great fatigue from which she formerly suffered. Medical treatment was then discontinued and the patient put on an hygienic course of baths and regulated exercise until she was practically restored to health.

This patient was very subject to rheumatism, or rheumatic gout, and I have no doubt that this and the high tension brought about by the accumulation in the blood of the poisons responsible for the gouty condition were the real causes of the nose bleeding.

This is an important point, for it shows how much harm might have been brought about by using adrenalin, as is so commonly done, as a styptic in this case. It would certainly have increased the pulse tension, and in an older patient with atheromatous cerebral arteries, might have led to a fatal hæmorrhage.

Varicose veins at the base of the tongue and around the lingual tonsil I have also found to be the cause of some bleeding into the oral cavity. Such cases have at times given rise to the suspicion of commencing consumption.

The patients are often mouth breathers from nasal obstruction and sleep with the mouth open. Consequently by the morning, the mouth and tongue are dry and the movements of these parts on awaking cause some slight fissuring of the dry and easily cracked mucous membrane and slight bleeding occurs. Hence, the patient often awakes with the taste of blood in the mouth, and is sometimes much, and, of course, needlessly alarmed thereby. Treatment of the nasal obstruction will usually set matters right, and only very rarely have I found it necessary to destroy the veins by the cautery.

Ordinary nose bleeding, when not dependent upon a blow on the nose, is exceedingly common, and nearly always owes its origin to the rupture of a small vessel on the nasal septum just within the vestibule of the nose. There is often at this spot a prominence of the septum and on this a crust of dried mucus is apt to become attached; if the patient attempts to dislodge this with the finger, a slight scratch with the nail will start the bleeding.

I feel sure that most of these cases are really traumatic in one way or another. If not due to the patient's own efforts, the crust may be dislodged by blowing the nose, and as it comes away it may detach a portion of the thin mucous membrane. Violent bleeding may result, and plugging of the nares, both anterior and posterior, is often resorted to, and yet it is very little known that such a procedure is rarely necessary. Pinching tightly together the alæ nasi close to their lower edges and their junction with the face by compressing between them the bleeding spot on the septum will usually stop the bleeding in ten minutes or less.

In cases where such attacks of bleeding are frequent, I have often found a small ulcerated spot. This is usually the case in elderly females. I have seldom met with it in the young. If this ulcer be lightly burnt with the galvano-cautery, it usually quickly heals up, and there is no repetition of the bleeding.

The spot at which these ulcerations occur is interesting from the point of view that it is at the junction of two vascular courses, viz., the naso-palatine from below, and the spheno-palatine from above. It is also about the region where the premaxillary bone unites with the lateral inward prolongations of the maxillæ.

These facts, possibly by causing a certain amount of disturbed equilibrium of its proper development, may account for the occasional occurrence of a small cushion of nævoid tissue in this region. One such case have I seen. It was a man who had been subject to attacks of alarming hæmorrhage from his nose, as a consequence of which he had been brought to a very debilitated state. I found on both sides, more especially on the right, a mass of nævoid tissue, which bled easily on touching with a probe. This was thoroughly cauterized with the galvano-cautery, and after destruction of the tissue no more bleeding occurred.

DISCUSSION

Herbert D. Schenck: Some fifteen years ago the possible relation of salt to hæmorrhage was called particularly to my attention through a young woman who developed retinal hæmorrhage at two consecutive menstrual periods, and finally lost an eye. That young woman had a morbid desire for salt and had used it excessively for some years. Several men saw the case in consultation; she had always had scanty menstruation. These physicians did not think the salt had any relation to the scanty period, but it always seemed to me it might have

some relation, though I could not secure any data. Certainly her menstruation has been much more profuse and normal since she has ceased the use of salt, which was prohibited at once.

E. D. Brooks: I do not know whether the rest of you have had a similar experience, but I have found in very many instances the excessive appetite for table salt was indicative of some disease of the system, some dyscrasia; very often I have found the symptom connected with chronic disease, and in most instances I am safe in saying I have cured not only the appetite for salt but also the chronic disease that accompanied that abnormal appetite by a high potency of natrum muriaticum. This is nothing extraordinary or uncommon, but it was not mentioned in connection with this paper.

Thomas L. Shearer: My favorite remedy for nose bleed is ferrum phosphoricum 6x trit., a tablet every three hours at first, and then a tablet three times daily. The results are very satisfactory.

NEUROSES OF THE LARYNX.

JOHN B. GARRISON, M. D.,

New York.

NEUROSES of the larynx, in one form or another, are frequently brought to our attention, and it is quite important that we should be able to give a diagnosis and prognosis in the case before us if we expect to retain the confidence of our patients and our prestige abroad.

Neuroses of the larynx are of two varieties, viz., those affecting the motor nerves and those affecting the sensory nerves of the larynx. From the first cause we may have irritability or spasm of the muscles, inco-ordination or paralysis; the latter may involve a single one or a whole group of muscles of the organ.

We find three forms of spasm of the laryngeal muscles: adductor spasm, spasm of the tensors of the vocal cords and spasmodic laryngeal cough.

Taking the first, we find an illustration in laryngismus stridulus, where we have a spasm of the adductor muscles of the larynx, most frequently appearing in children of a neurotic ancestry. The suddenness of the onset and the lack of fever will, almost without examination for the Klebs-Lœffler bacillus, be sufficient evidence to decide the absence of diphtheria in a given case.

Spasm of the tensors appears frequently in different degrees, and in the majority of cases hysteria is more or less a causative factor, although it may be due to a lesion at some distance, as, for instance, cases have been reported where it was apparently due to carcinoma at the lower end of the œsophagus; also enlarged lingual tonsils may be the cause, and I have seen one case that was promptly cured by the removal of this condition.

Spasm of the tensors of the vocal cords appears in what is called *aphonia spastica,* rather a rare condition, but one which is sometimes found, and usually, in neurotic individuals. It is peculiar from the fact that the voice is suddenly lost, possibly right in the middle of a sentence,

and no amount of exertion can restore it; only a complete relaxation will suffice to permit the speaker continue.

Spasmodic laryngeal cough is a distressing affection in which, although the larynx shows nothing abnormal, the cough occurs in frequent succession sometimes and again at longer intervals, one loud bark in the stillness surrounding or eight or ten explosions together. Either way that it comes, that is all there is to it at the time. A condition called *mogiphonia* is of this class, only here the loss of voice occurs on extra effort being made to speak louder than normal. There is a variety of this where the tension of the cords is such that there is a tremulous effect, and that may be in evidence a great part of the time.

Inco-ordination, the second of the motor neuroses, is exemplified in that somewhat rare disease called *laryngeal vertigo,* in which a spasm of the larynx comes on without the slightest premonition in a person to all appearances perfectly healthy, and giddiness, blurring of vision and unconsciousness quickly follow, to last only a few seconds, perhaps the patient coming out from the seizure without any unpleasant consequences. Some authorities have called this laryngeal epilepsy, but there seems to be similarity except the suddenness of the seizure.

Paralysis of the vocal cords comes now to our attention, and as all of the muscles involved are innervated by branches of the pneumogastric nerve, we shall expect that the most common cause of the paralyses found will be some pressure on this nerve by tumors.

It has been a matter of controversy as to the manner in which paralyses occur, but the theory of Semon, presented in 1881, now seems to be generally accepted, to the effect that all progressive paralyses if organic commence with the abductors, and if functional with the adductors only.

Abductor paralysis means a loss of function of the posterior crico-arytenoid muscles, which, by their normal action, separate the vocal cords and permit the entrance of air to the lungs. Nature has considered this function so important that a separate nerve center is provided for it, and anything that affects this center, such as syphilis, which is perhaps the most frequent cause, is to be carefully looked for and treated accordingly.

Syphilis is, as I have said, the most frequent cause for this condition, but there are other causes, and we should look for traumatism as well as for brain tumor and locomotor ataxia in getting the history of the case. The mirror shows the cords lying motionless near the median line, and

there is no lesion excepting ankylosis of the crico-arytenoid joints—which is usually the accompaniment of cancer of the œsophagus or tubercular laryngitis—that is capable of producing this picture. The voice is not changed, as a rule, but coughing and expectoration are difficult. Where the paralysis is lateral the symptoms are mild, and on phonation the mirror shows no abnormality, but on inspiration the affected cord lies perfectly quiet, while the other one is abducted normally.

All of the muscles of the larynx receive their nervous supply from the recurrent laryngeal branch of the pneumogastric except the crico-thyroids; these derive theirs from the external branch of the superior laryngeal nerve and some filaments from the pharyngeal branch of the vagus. All the other filaments of the superior laryngeal supply the mucous lining of the larynx with sensation.

Superior laryngeal paralysis or paralysis of the crico-thyroid muscles, which are the external tensors of the vocal cords, is attended with a relaxation of the cords, and hoarseness, together with an impairment of sensation of the lining membrane of the larynx. The cause is frequently an attack of diphtheria or probably the overuse of an already inflamed larynx. When the paralysis is bi-lateral the mirror shows a most peculiar picture which cannot be mistaken for any other condition; the vocal cords being, on phonation, approximated only in the middle. When it is unilateral, we find the cord on the affected side relaxed between the vocal process and the thyroid cartilage. The diagnosis of superior laryngeal paralysis can always be confirmed if there be anæsthesia of the larynx.

One of the most common forms of laryngeal paralysis is that of the internal tensors or thyro-arytenoids; but for the fact that there is no loss of sensation, this is much like the condition mentioned above so far as symptoms go. These muscles are, however, supplied by the recurrent laryngeal nerve. The effect upon the voice is at first a weakness which goes on to complete aphonia. The cords are seen to be lax and on phonation belly out, instead of being drawn tight as in health.

Recurrent laryngeal paralysis has for its causes, in general, pressure on the nerve trunk or a central or peripheral lesion, and the cords assume the cadaveric position. Dilatation of the aorta from aneurism may be a cause of paralysis, and will produce a left-sided trouble, while we may have paralysis on the right side from the pressure of pleuritic adhesions in incipient phthisis, because the pleura normally extends

higher on the right side. Enlarged lymphatic glands, cancer of the œsophagus and mediastinal growths are also to be examined for in these paralyses as being occasionally responsible for them. When one side only is affected the voice becomes weakened at first, and the mirror shows the cord on that side to be in the cadaveric position, while the cord on the unaffected side will swing around to meet the other, and by so doing a fair speaking voice may soon be obtained. In the bi-lateral form complete aphonia is the result in a short time unless a cure is effected.

The central adductors, the arytenoid muscles, may be affected sometimes when the superior laryngeal nerve is paralyzed, as that muscle receives some filaments from the superior as well as from the recurrent branch of the pneumogastric. We have the glottis only partially closed in this, the cords being approximated for their anterior two-thirds only, the posterior third, from the vocal processes to the arytenoids, failing to close on account of the paralysis of the arytenoids leaving a V-shaped chink, which is always diagnostic of this condition.

Recapitulation.—It is well to remember that recurrent laryngeal paralysis is caused by pressure on nerve trunk and also central and peripheral lesions; has the symptoms of tone weakness to complete aphonia and that the cords assume the cadaveric position. It includes abductor paralysis, adductor paralysis, arytenoid paralysis and internal tensor or thyro-arytenoids. External tensor, or crico-thyroid paralysis, is due to lesion of the superior laryngeal nerve, and is unique in that it is always associated with anæsthesia of the mucous lining of the larynx, which does not occur with any other form of laryngeal paralysis.

It is always wise to think of treatment at the same time that we plan a diagnosis, and we will now give a little attention to that for a few moments.

When the trouble is due to actual pressure of a tumor, we cannot hope to be rid of the effect until that is relieved in some manner. The surgeon will have to decide what is to be done in most cases as to whether the case be operable or not. There are many cases even then that may be temporarily relieved by a well selected remedy, and we should always be ready to apply our remedies for relief in cases even where hope of cure is out of the question.

In the spasmodic troubles we will find bromine and chlorine of great value, especially in laryngismus stridulus. One great symptom is "free inspiration but almost impossible to produce an expiration." Any

potency may be helpful, but a weak dilution of chlorine gas in solution has been used with success.

As many of these cases are to a considerable extent influenced by the neurotic habit of the patient, our treatment will be largely directed to the correction of that abnormality. Ignatia will do a great deal for some, especially if we find that general contrariness so characteristic of the drug present. In all throat affections where spasmodic conditions are present we should look for and remove, if possible, any abnormalities in the nose, pharynx, larynx or ear, as a spur in the nose, hardened cerumen in the ear, enlarged tonsils and enlargements of the lingual tonsils. The latter, in my experience, are a very frequent cause of these spasmodic affections; their removal produces a radical cure.

In cases where the tension of the vocal cords is at fault we will find causticum a valuable remedy among others; when it is indicated a sip of cold water will usually seem to relieve the uncomfortable sensation for a while. Faradism over the larynx will be of use in some of the cases, and in others galvanism will give the best results. Where an anæmic condition exists faradism, applied externally over the larynx, will be highly beneficial if perseveringly used. The galvanic current is of service in all paralyses of the muscles operating the vocal cords when the cause is not central; its manner of application can best be learned by referring to a good text-book on electricity.

The high-frequency current has proved of great value in many cases of adductor paralysis, which were largely due to overuse of the voice combined with a general anæmic condition; there is nothing more available to bring about a better capillary circulation than this method of using electricity, and as the muscles involved are always weakened for lack of nourishment, I would advise that it be taken into consideration when a choice of methods is being made.

But the homœopathic remedy will often make the use of any local application unnecessary if care be taken to find the similimum. Gelsemium will suit the weak voice with a tremolo stop on. Argentum nitricum also has a trembling of the voice and of the limbs; its application in the laryngitis of singers will prevent possible paralysis if prescribed in time. Argentum nit. has the sensation in singers as if there was something actually stopping the vocal organs. Where this remedy is indicated there is apt to be some gastric disturbance with large quantities of gas collecting in the stomach which resist all efforts to be expelled until finally it is belched out in great quantities. Gelsemium and argentum

nit. are both useful in post-diphtheritic paralysis, but the distinctions must be made by the symptoms that appear elsewhere. It should always be remembered that if we attempt to prescribe by means of symptoms appearing only in the organ we are training, we will make many a failure and tend to discredit homœopathy.

Rest of the larynx should always be insisted upon during the acute stage of every form of laryngitis and protection from exposure to cold winds also, and attention to all the details of personal hygiene will greatly facilitate the cure or modify the unpleasant symptoms that are present in the incurable cases.

DISCUSSION.

Harry S. Weaver: Dr. Garrison has covered the ground so completely that there is very little for me to say upon the subject. One thought, however, presented itself to me as I read his paper, which he only touched upon lightly, and I think it one of great importance, namely, the lack of proper adduction or proper approximation of the vocal cords during phonation which is so frequently found in singers and public speakers; in the latter it is responsible for the lack of carrying quality of the voice preventing the speaker from being heard in all parts of room. In viewing these cases with the laryngoscope you will find the anterior and posterior ends of the cords in apposition, but in the centers a small space through which there is a leakage of air before the tone is produced, consequently a lack in power of the voice.

In the majority of these cases there will be more or less trouble with the larynx due to the over-exertion required to produce tone. The faulty method will be responsible for this and you can give a drug which covers the totality of the symptoms accurately, and not cure the case. In cases such as this our prescription should be a teacher in voice culture, who understands the mechanism of voice production, plus a well selected homœopathic remedy for the acute symptoms as they present, not trusting to either one alone.

Dr. Garrison: Voice culture is very important; a faulty manner of using the voice is in very many of the cases responsible for aphonia, and, in fact, for many conditions existing in the laryngeal, pharyngeal and nasal regions.

A FEW CURSORY NOTES ON SOME OF THE VASCULAR CHANGES OBSERVED IN THE RETINA.

JOHN L. MOFFAT, M. D.,

Brooklyn, New York.

NO retinal hæmorrhages nor vascular changes, except elevation, are observed in miliary tuberculosis.[1] In atypical cases of supposed typhoid fever, especially where the Widal is negative, look repeatedly for tubercles in the fundus oculi; these may develop so rapidly as to make their appearance between examinations.

True embolism of the retinal artery is very rare; in 6,000 patients Haab diagnosed but twelve cases, and only two of these were undoubted emboli.[2] Spastic ischæmia of the retina is also rare.[3] De Schweinitz[3] describes an interesting occlusion of the temporal artery of the retina in an anæmic girl aged 15.

Valude[4] reports a case of retinal ischæmia and arthritis with no hæmorrhages in a woman aged 49, suffering from Bright's disease. She had no syphilis, but the arteries were hard and sinuous.

Sclerotic changes of the walls of retinal vessels alter their caliber and appearance; the erect image is best for diagnosis. They are of importance as indicating the condition of the cerebral vessels. In chronic nephritis they may occur either with or without hæmorrhages or retinal exudations.

Gonin[5] saw fifteen cases of retinitis pigmentosa with annular scotomata but without true concentric contraction of the visual field. Levisohn[6] describes a case of atrophy of the retina [resembling retinitis pigmentosa] due to an extensive primary chronic sclerosis and atrophy of the choroid; the patient presented no other marked evidences of

---

[1]C. Loeb, Archives of Ophthalmology, Sept., '03.
[2]Beard, Chic. Med. Rec., Jan., '03.
[3]Phil. Med. Jour., Mch. 14, '03.
[4]Receuil d'Ophthalmologie, Mai, '04.
[4]Receuil d'Ophtalmologie, Mai, '04.
[5]Annales d'Oculistique, Aout, '02.

vascular sclerosis. This case differed from Fuchs's atrophia gyrata choroidæ et retinæ in its commencement and by its visible changes in the choroidial vessels.

In chronic nephritis isolated hæmorrhages and exudates in the retina may occur without marked changes in the walls of the vessels.

Retinal hæmorrhages with high arterial tension are significant of beginning widespread arterial degeneration. If there be no albuminuria put the patient under observation, examining the urine thoroughly from time to time; albumin will sooner or later be discovered in almost every case. Many cases reported because albumin had not been detected would not have been so peculiar if this precaution had been observed.

An early stage of granular kidney may be suspected if the ophthalmoscope shows decided thickening of retinal arteries, especially if the patient be comparatively young In elderly people it should be a warning of cerebral hæmorrhage. Nettleship[7] considers that there is only one sort of renal retinitis, the varieties described being only stages or degrees of œdema, exudate or degeneration. He considers the life prospect better in diabetic than in renal cases, and that most cases of so-called renal choroiditis are secondary to retinitis. George Carpenter,[7] who for many years has made routine examinations of the fundus oculi in children with nephritis, says retinitis is not uncommon in the interstitial nephritis of children; in fact, interstitial nephritis without eye complications is uncommon.

C. S. Bull[8] considers recurrent retinal and subhyaloid hæmorrhages in the young as of slight prognostic importance, especially if syphilitic.

A subarachnoid hæmorrhage, if sufficiently rapid, will cause retinal hæmorrhage—confined to the same side if the effusion is unilateral; this is of value in diagnosis of fracture of the base of the skull.

Retinal hæmorrhages may be caused by prolonged or difficult child birth, chiefly in vertex presentations. The retinal circulation is probably disturbed by distension of the optic nerve sheath with cerebrospinal fluid from compression of the head. These extravasations [by diapedesis] may be visible for two weeks or more, and are generally absorbed without leaving any trace ophthalmoscopically or any appreciable defect in the field of vision; yet they may leave scars and impair the field or the acuity of vision.

---

[7]Brit. Med. Jour., 1903.

[8]Archives of Ophthalmology, May, 1904, p. 260.

Retinal hæmorrhages accompanied by no inflammatory appearances, and absorbed leaving no trace, are found in botryocephalus-anæmia and in Biermer's essential pernicious anæmia. The percentage of children in whom these hæmorrhages occur is relatively large.[9]

It is well known that some remedies have a selective action upon the fundus oculi.

Belladonna, duboisia and gelsemium cause engorgement of the retinal blood-vessels. The belladonna patient we all know by sight. The duboisia case stands between bell. and gels.; his vertigo is often accompanied with a pale face. His attack is not so sthenic as that of bell. nor so asthenic as gels. The inflammation of gels. is more typically serous.

Phosphorus is more apt to be of use in comparatively chronic cases.

Mercurius corrosivus also has a decided selective action upon the fundus, although perhaps more markedly on the choroid than on the retina; it is the first—and kalmia the second—remedy to be thought of in albuminuric retinitis.

Menstrual retinitis suggests bell., bry., verat. vir.

If no other remedy seems indicated in a case of retinitis pigmentosa give zinc. phos.; kali iod. has seemed beneficial in a recent case of mine.

For retinal anæmia sulphate of quinine is the remedy, but the dose must not be too large. If due to embolism, thrombosis or trauma we would study opium, arnica and kali iod. If sexual give phos. acid.

For atrophy it would seem as if nothing could be done, but we may try to check its progress with phos., zinc. phos., nux, strych. phos., tabacum, plumbum, aurum, kali mur., radium, Finsen rays, the X-rays, massage or electricity.

1136 Dean Street.

---

[9] A. Tschemmalossow, Die Ophthalmologische Klinik, Mai 20, 1904.

THE VALUE OF AN ADJUSTABLE AIR CUSHION IN PNEUMO-MASSAGE WITH HIGH SPEED AND THE SHORT TWO MM. STROKE.

SAYER HASBROUCK, M. D.,

Providence, R. I.

THE claims of ocular and aural massage are now so well known that any suggestions for its use are surely in place. It is no doubt true that all that has been claimed for it has not been realized, but that much good has already been accomplished as a result of its investigation needs no explanation, and that much more may be expected of its intelligent application seems true.

Personally, I have given much of my time, as you know, not only to its use but in the methods of its application and in the improvement of apparatus for its use. The apparatus suggested by myself last year still gives me great satisfaction, and the experience thus gained has naturally suggested other ideas.

I then stated that I believed that too high speed should not be used when the long stroke is used as the means of application, and I still believe this statement is correct.

Of late, however, I have been giving much attention to the value of the short 2 mm. stroke and very high speed combined with an adjustable air cushion in circuit, as I believe that the value of the air cushion is one of the most important features of massage.

My experience with high speed soon convinced me that one must have either various sizes of cylinders or an adjustable one, and I had one made, the capacity of which could be easily changed at will by means of a plunger controlled by a thumb screw. When a speed of 600 revolutions per minute is used, the necessary capacity is found by adjusting the thumb screw while the operator holds the cup to his own cheek, and in the same way the cushion is adjusted for 1000, 1500 or 2000 revolutions as desired.

The practical value of this I believe will be quickly demonstrated to any one on trial.

At first, and also for my personal use still, I had a small pump attached direct to the shaft of my motor connected to an extra adjustable air cushion on the same base used for the larger apparatus, thus allowing, without any changes, the use of the long stroke, as in the past, to be followed at once, if desired, by the short stroke and high speed.

The result of this soon suggested to me the remodeling of my whole apparatus, so that now, if one does not object to taking the time to make a few changes, it will be found that all that I claimed for the first apparatus can be accomplished with the new model.

On the sides of the adjustable air cushion I have attached the check valves for the control of suction or pressure suggested by myself, and also the dial indicator. All that is necessary is to close one when the other is used, and when very high speed is used it has been my habit to close both and cut off the indicator, as this cannot work, and it is doubtful whether the controlling checks can either. The advantage of this model is that the adjustable air cushion allows its being attached to any pump that one may be using with equally good results.

Without going into the comparative value of the long or short stroke and slow or high speed, as I would like to if I felt that my experience had been such that I could, I will confine myself to a general statement of what use I have so far made of them.

I believe the best results from the use of the long stroke have been found in the treatment of conditions following acute diseases and those conditions known as subacute diseases. At times chronic diseases have responded to treatment in such a way that our patients have been more than satisfied, if not cured; results that should be most gratifying to the physician as relief is what our patients ask for. At the same time our chronic cases have usually great faith in us, and if we are honest with them are willing to give us a trial. It is the chronic cases that I believe have at least a hope of relief from the use of the short stroke and high speed carefully and intelligently applied, and it is to be hoped that our results will at least prove to be a step forward, and that further investigation will, as I have reason to believe, warrant the careful attention of those already interested in this work, as they alone should be able to determine its value.

Personally, I am willing to say that my results have so far been not only satisfactory to myself but also to many of my patients who have previously received but little if any benefit from the long stroke, and I believe that if we are able to use much higher speed, still better results

will be accomplished in such cases as tinnitis and other middle ear diseases. Its value in long-standing partial deafness has also been satisfactory.

In the treatment of diseases of the eye I believe it will be found to be most useful. Long-standing cases of trouble with the ocular muscles have given me some surprising results. There are also many retinal conditions that seem to respond most satisfactorily to its use, such as partial amblyopia from indefinite causes, cases of apparent congestion from over-use of the eyes, with asthenopic symptoms, and I believe it has very materially aided in the recovery of retinal inflammations following the acute stage.

Its value in corneal opacities has been far better than any other methods I have used, and at present it seems to be doing most wonderful work in clearing up an opacity following a severe case of interstitial keratitis.

Two cases of glaucoma, one of long standing, the other a recent case of chronic glaucoma, have been made most comfortable; the recent case already shows a marked improvement in the field of vision. This case may prove a most interesting one for future comparison, as, eighteen or twenty years ago, I operated on her father's eyes for the same trouble, and he still has vision enough to go about with, and there has been no return of tension. His daughter is now 34 years of age, the same age that he was at the time of operation, and her field of vision as found at first hardly larger than a five cent piece has, after two weeks' treatment, greatly improved in area. However, I believe that as soon as the field becomes satisfactory, I will do an iridectomy to be on the safe side. Still I feel confident that if I am able to establish a good field of vision before operating her chances for useful vision in the future are far greater than if massage had not been used.

On general principles I believe the field of the short stroke and high speed offers us a chance to relieve or at least assist nature in cases of deep-seated troubles far more than we have ever been able to do in the past.

In conclusion, I believe my results have been such that I am making no mistake in asking those interested to give it a trial and report their conclusions in favor of or against it. It is true my statements have been general, but I trust not misleading.

105 Broad Street.

NIAGARA FALLS HOSPITAL CLINIC, 2:30 TO 4 P. M., WEDNESDAY, JUNE 22, 1904.

OPERATION FOR SENILE CATARACT.

A. B. NORTON, M. D.,

New York.

A. B. Norton: This is a case of immature cataract; the nucleus is quite opaque all through. At the request of Dr. Fred. D. Lewis, who secured the case, I shall make a simple extraction, although this is not my habit. My custom is to have the patient's forehead and face very carefully scrubbed in soap and water the morning before the operation, and then a few hours before the operation the face is thoroughly scrubbed again with bichloride solution 1-4000, particularly the eyelids and ciliæ. This case has the eye bandaged, as you see. I now use bichloride and thoroughly flush with this little bulb syringe, inserting the nozzle well under the upper tarsal fold. Then the lower tarsal sulcus is flushed thoroughly, taking pains always to examine thoroughly to see that there are no conditions of the lachrymal apparatus that would interfere with the success of the operation, no catarrhal discharge. Now I wash out two or three little flakes of mucus. I am very particular about cleansing the eye first before my operation.

This patient has had simply a drop of atropin inserted last night, and cocain, four per cent. solution.

A Member: Do you always use the atropin when making a simple extraction?

Yes, sir. With one instillation the pupil is enlarged. I now insert the speculum slowly and let the eye gradually get accustomed to it; then open it widely. I fixate the eye a little below the point where I am going to make my puncture. In this operation I make it a rule to make the puncture and incision through the clear cornea; let the point of the knife run rapidly across and cut out slowly after the counter puncture, turning the edge forward just before completing the incision, and finish by cutting straight outward. Be careful not to cut the iris. Now I change my seat, after making the incision, so as to get behind for my cystotomy. Insert the cystotomy knife with its back first, going clear down to the edge, turn cutting edge a little and sweep it under the iris to make the incision and withdraw it forward; then I remove the speculum.

The incision, as you notice here, is entirely in the cornea. It has been my rule to make my corneal incision a little further forward, away from the scleral junction. Within it is suggetsed by many men, and that is frequently followed out in simple operations. I did this intentionally

to avoid prolapse. I think the further away from the corneal margin the incision is the less danger of prolapse; so you notice I made quite well-marked forward cutting.

Royal S. Copeland: Do you think there is more danger of infection where the incision is purely corneal?

Dr. Norton: No, sir; I do not know why there should be. As I said in the first place, gentlemen, I have given up the simple operation. I have not made one in a number of years. As many remember at the Washington meeting I reported a number of cases operated, both with and without iridectomy; at that time had an equal number of simple and combined operations, and my results were equally successful; I obtained about the same amount of good results in vision. In the discussion I called upon Dr. Charles Thomas, of Philadelphia, who had not spoken. He operated more cataracts than I, or perhaps any of us, and I asked him his experience with the simple operation. He said he never made a simple operation; he had always read and heard Dr. Norton state that in all complicated or difficult cases the combination operation with preliminary iridectomy was the safest. I had always known and felt that myself; and Dr. Thomas said that it was his duty always to give his patients the safest operation—every possible chance. If this is the safest in complications it is the safest in simple cases. This went home to me as I never realized it before, and since then I have never made a simple operation. My rule is to make iridectomy two or three weeks before the extraction.

As you see, my custom is to remove the speculum before attempting the extraction, because if the patient is at all unruly you will have trouble from squeezing with the speculum. An assistant holds the lower lid, but he must be instructed not to make any traction or pressure on the eyeball itself. That is the great trouble in such an eye as this, where there is more or less secretion; it is hard to get it away unless you are very careful. This patient has not very good control of the eye. The essential feature is steady backward pressure at this time of the operation, that turns the lens on its axis: then make light pressure backward and upward at the same time, and the lens appears; then let up your pressure, after the lens is engaged in the wound I make no pressure and it slides out of its own accord. If you keep up the pressure too much you have trouble. In patients who have good control I follow up the pressure gently, pressing out more or less of the cortical substance. I am not so particular about getting at the cortical substance as many operators are; I never wash it out, and I do not care how much of it there is left, because in the majority of operations it will absorb.

The principal thing now is, after extraction, to see that the iris is back into place. Possibly I could coax out a little cortical substance. This iris is back in place, the pupil is perfectly circular. There is apt to be a little prolapse immediately at this time, but it will generally roll back into place itself. There is quite a little soft cortical substance still

in this pupillary space, but it is because the lens is not mature. In this case it is the wisest thing, in my judgment, not to attempt to extract any of this cortical substance at all.

Now, the only thing remaining is to flush out the eye after the operation. I use boric acid solution for this, and take particular pains to see that the lips of the wound are perfectly clear; that there are no particles of cortical substance or any debris of any kind resting in the wound. Many of the mucus shreds you can pick out with the forceps better than you can flush them out. In reply to the question why I always make preliminary iridectomy, I can cite a case that illustrates as well as anything I know of my reasons for doing so: I had a patient who was a very valuable one to me in the way of financial returns, and a very important case; and making a preliminary iridectomy, as I always do, there was at the time of the iridectomy, just as I snipped off the iris, a great jumping and squeezing; the woman lost control of the eye and it was squeezed in great shape. If I had been doing a cataract operation the whole contents of the eye would undoubtedly have come out at the time. No accident happened from the iridectomy; but for the next two or three weeks before making the extraction I was in a constant state of worry as to what would happen if she should do that at the time of extraction. The patient was eighty years of age, and had heart and kidney trouble, and I did not dare to give any anæsthetic, and I did not dare to trust to cocain, considering the experience I had had. After considerable pondering over the case I finally decided to place her under morphine just as much as possible, so I stupified her with it as far as I could and then used the cocain.

Here is a prolapse of the iris coming on now. This is the dressing I apply: pieces of gauze wet in bichloride 1-4000 laid over the eye, followed with a little light cotton, which adapts itself to the eyeball and shapes over it very gently and nicely. Be very particular not to make any pressure over the eye, letting only the weight of the cotton be on it. That forms a splint to the eye that is better than putting on a pressure bandage. I am using a little more cotton here than usual, and I am applying the strips perhaps a little tighter also. I am making quite a little pressure. I generally apply strips of adhesive plaster very gently, taking pains to put them across the corners of the eye and not over the eyeball. I think the best thing is to have her carried to the bed and have an ice bag applied.

Now, my judgment is that when there is a prolapse the best thing is to let it alone and put ice on the eye. There is an excessive prolapse, and from the amount of pain she is having and the congested condition of her face, I am afraid she is having ocular hæmorrhage. That is the way it looks to me. I would like any criticism from any one here as to what to do.

A Member: Do you think she had enough cocain, doctor?

Dr. Norton: I do not know how much she had. My instructions were to use it every five minutes for four times.

A Member: Do you use cocain in the other eye to steady it? I find I get better control that way. They open the lid more and do what you tell them.

Dr. Norton. That is a good suggestion. I thought of that all the time I was doing it.

A Member: Every operator comes to such cases once in a while that act as she does. They do not put the eye where you want them to and they have no control of it.

Dr. Norton: The nurses have had no experience in preparing the eye, and as it is a general hospital, my impression is she has not had enough experience.

A Member: If severe vomiting follows the operation?

Dr. Norton: I do not think they ever have.

A Member: We had a case operated upon last fall. About two o'clock in the afternoon I performed preliminary iridectomy, and the next morning at eight o'clock the patient began vomiting, after resting well all night; she vomited continuously for half a day. There was marked prolapse.

A Member: To lie on the back makes some nauseated.

Dr. Norton: Simply keep the eye well bandaged and put an ice bag alongside the eye.

A Member: Does the ring give any use there?

Dr. Norton: I am not certain. This was not successful. It was perhaps more interesting from not being successful. As to prognosis, if there is no hæmorrhage back there the prolapse will sometimes go right down and slough off. The vitreous itself has come. Many times it heals without discomfort, and if you attempt to get it off you get into trouble. You still have adhesions of the iris.

T. M. Stewart: Iridectomy at the time of cataract operation is as good as if preliminary.

Dr. Norton: I never perform iridectomy at the time of the cataract operation, except where the iris requires it.

Dr. Stewart: In these complicated cases I have done differently from Dr. Thomas and some of the other men. I do the whole operation, iridectomy and extraction of the lens, right at the time, because I was afraid putting them through one operation then allowing them to wait would result unfavorably, and I would rather have it in the first place in complicated cases.

Dr. Norton: Here is the value of preliminary iridectomy. If this was not thoroughly cocainized there would have been no harm done in making the iridectomy. If she was thoroughly cocainized and she had this trouble then I should have been on my guard and been very careful. If cocain does not act well I should use something else.

WORTH'S AMBLYOSCOPE AS A MEANS OF DEVELOPING THE STRENGTH OF THE EXTERNAL RECTUS MUSCLES.

G. DE WAYNE HALLETT, M. D.,

New York.

THE result of my efforts with this instrument for this purpose I can present in a very few words, and they are the same as are used for all other methods to increase the power of these muscles by exercise.

It is useless.

Three cases were tried in which the abduction was low and esophoria a distressing symptom. In none was abduction increased, but two of them stated they were more comfortable in the use of their eyes. It is perhaps proper to state that the author of the instrument intended it for no such purpose, but since it is arranged to suit lateral deviations of from 60° of convergence to 30° of divergence, it could, I thought, exercise the abductors if anything could.

Used strictly for what it was designed, the training of the fusion sense in young patients with a tendency to suppression of one image, I have found it an awkward instrument to say the least. It must be held in the hand, two hands, in fact, the illumination must be shifted to stimulate attention, the eyes of the patient must be under constant observation, for you cannot trust the statements made, and the instrument in position practically hides their eyes. I am not satisfied that it is useless and shall continue to use it to cultivate the fusion sense in proper cases of children under six years.

I might add that in a number of cases of divergence I have by careful testing been able to establish a considerable degree of hyperphoria in children as young as 3½ years, and with its correction, together with correction of such ametropia as may be necessary, the children have then progressed favorably by those methods usual in exophoria. The main advantage I have observed in these is that the little patient's eyes are under easy observation, contrary to the case when using the amblyscope.

My instrument is the London made one; it has no adjustments, as has the new Meyrowitz instrument, by which hyperphoria may be first included and corrected. This hyperphoria attachment on the new instrument was suggested by Dr. Black, of Milwaukee, and seems a valuable addition.

DISCUSSION.

E. J. Bissell: This is one of the papers that I wanted to hear; the doctor has not praised the instrument very highly, and I cannot do so myself. So far as the actual developing of the muscular power goes, I believe it is useless. The fusion faculty is an acquired faculty, and in early life this instrument will do something for it, but not more than that which Dr. Wells has arranged for us. I have used it in one way that has not been described; I had my instrument marked in degrees, not that that has any scientific meaning, but it is a good comparative measure. It enables me to get at certain data which otherwise I could not secure. It enables one to make comparisons from day to day as to the point when fusion is easiest.

D. W. Wells: I said in my paper yesterday, speaking of my fusion training, that I did not want to be considered a crank on this subject. I am extremely interested in it, and my experience coincides with both of the last speakers, Drs. Hallett and Bissell.

First, as to the question of being able to determine whether the child is fusing or not with the amblyoscope; it is difficult to know whether the child is really fusing with this instrument or whether he only thinks he is. At the age at which it is necessary to use it, not much reliance is to be placed upon the statements of the patients; they cannot be made to realize the necessity for accurate statement. That is a serious objection to the amblyoscope; you are entirely at the mercy of subjective statements made by an untrained young patient. You cannot watch the movements of the eyes as it is possible to do with the phoro-optometer stereoscope.

In regard to the marking of degrees on the instrument, I think that that is a good suggestion, and I have thought of it myself. The question is where the zero mark should be. An elaborate calculation would have to be made for each pupillary distance. Although the graduation of Dr. Bissell is somewhat arbitrary, it is at least a means of comparison, and is a valuable suggestion. In regard to the relief of symptoms without any improvement in the heterophoria, it is true that an increased power may relieve the asthenopia though the wrong tendency remains. Worth makes some very positive statements in regard to exophoria; he says that no amount of exercise will help it in the least degree. We may improve insufficiency of the internal recti but we can do nothing in the line of exercises for exophoria.

I have a great many cases of a high degree of exophoria (as high as

20°) which have been absolutely cured, by every test known to me. So I am in a position to contradict that statement. In all forms of exercise we should make tests and records both before and after treatment. I test the "phoria" by both cover and phorometer and record the same. Then I have a means of comparison to show results of the treatment.

I do not feel that I have accomplished much unless there is some difference between the before and after records. When the patient holds the improved condition until the next visit, you are on the road to permanent improvement. That is a good way of following up your cases and determining whether they are cured by the exercise or not; it is something definite. In regard to the phoro-optometer stereoscope, when using the two movable charts every motion detracts from the patient's ability to hold the fusion. It is a better method to have the objects stationary, that is, printed on one card. I am able to make the patient hold a fused image a great deal longer by having the image stationary and the glasses movable. We can develop a greater degree of ducting power with the stationary image. I confess that I have not been able to accomplish much with the external recti by training.

E. D. Brooks: I would like to know whether those who have used these newer appliances and have had a former experience with exercises with prism, have found the new way productive of better results, more rapid, more sure or more permanent than the old way. In regard to the external recti, it has been my fortune to improve a number of cases of exophoria to such a degree that the heterophoria has seemingly disappeared.

Dr. Wells: I can answer that question with a decided affirmative. With the stereoscope I can get much quicker results than by the loose prism method. I follow the stereoscope with the loose prism method; it is frequently possible to make a patient fuse 60° in the stereoscope who can fuse only 10° of loose prisms. I guage my progress by the gain which the patient makes by the loose prism test.

Dr. Brooks: How many treatments are necessary to develop the internal recti in an average case? In the cases of weak externi eight to twelve treatments are usually sufficient.

Dr. Wells: I stated in my paper yesterday some statistics that answer the question. In the report of thirty-nine cases, twenty-four developed a degree of duction equal to from 60° to 90°. These successful cases average eleven or twelve treatments; the treatments were two or three days apart at first, and at increasingly longer intervals.

E. W. Beebe: What per cent. of these cases are helped by this treatment? My experience with them has not been very brilliant. The more I do for them the greater the irritability of vision is the rule. For several years I have not attempted to prescribe prisms where there has been deviation of more than five or six degrees. When more than this is present, I have had very little success in correcting it, except by operative measures. I have had no experience with this instrument.

Dr. Bissell: If I understand Dr. Wells, he lays great stress upon the

mental side of binocular vision, and not so much on muscle strength. Exercise may develop the muscles but it does not always stimulate this peculiar psychic fusion faculty which is paramount in these cases. His method stimulates the internal incentive or cerebral demand for fusion of the images to make clear vision and which calls forth the muscular activity. It is a very different thing from merely making the muscles strong. It increases the need for accurate work by the muscles and thus develops them.

G. De Hallett: It is interesting to hear so much discussion on so short a paper. Muscular defects, lack of the fusion faculty, which are not necessarily dependent upon ametropia, must find relief somewhere. Exophoria, I believe, is often in my hands really cured. I believe also that in making records of your results in muscle training, it is important to note the condition of the muscles before as well as after the exercise, judging of your real results by the progress you make according to the test made before the next treatment. In regard to some of the cases in which I used the amblyoscope and its effect upon the external recti, I took considerable pains to show an intelligent patient how to use the instrument in testing her little girl; she used it very faithfully for a month with good results.

In regard to the point made by one of the speakers about power being created by muscle exercise, I think that there is some confusion abroad. There is not the same intimate relation between the fusion faculty and muscular strength as in the comparison made. I have noticed patients lacking in muscle duction and having exophoria who will require a number of office visits to carry them beyond 6 or 7 degrees prisms base outwards.

During the time that you are teaching them, you are urging those muscles to get to work. After the first educational visits, so to speak, they will jump up very rapidly and soon get relief from their trouble. It seems to me that this instrument could be further improved if it could be adjusted to a standard. Possibly also some modification of the tube nearest to the eye could be made so that the patient's eyes could be kept under observation while the tests are being made.

PARALYSIS OF THE SIXTH NERVE.

C. H. BROWN, M. D.,

Philadelphia, Pa.

MISS L. E. P., æt. 40. For ten years has suffered with epiphora, both eyes being affected. I performed the usual operation, and after persistent passing of probes for four months entire relief was obtained.

Atropin was then used to measure the refraction. Almost immediately after its instillation vision became very much confused, and when patient returned in the afternoon of the same day I found a convergent strabismus of right eye and a paralysis of external rectus of left eye. The visual acuteness was O. D., $^{10}/_{200}$. Pin hole disc raised it to $^{10}/_{100}$. O. S., $^{20}/_{30}$. Pin hole raised it to $^{20}/_{20}$ partly.

Patient says vision of R. E. has always been defective, but denies any previous deviation of eye, and blames the present squint on the mydriatic.

The interest of the case lies chiefly in the paralysis of the sixth nerve of the left eye. This eye, on account of its visual acuity being so nearly normal, is the fixing eye, and maintains its proper position in the orbit; to the casual observer it shows nothing abnormal. An examination of the rotations of the eye reveals an entire absence of outward movement.

On April 19, 1904, I performed a tenotomy of the right internal rectus, the primary effect of which was to cause a slight divergence; but at present time, six weeks after the operation, the strabismus has again become convergent, almost to the same extent as before, except that patient has the power now to rotate eye nearly to its normal position when she fixes her whole attention upon the effort.

We usually expect an eye to turn from a paralyzed muscle, but in this case the eye maintains its straight position, probably because the vision of the other eye is so defective; this fact also doubtless accounts for the absence of diplopia, which is such a common symptom in similar cases.

I placed patient on 5 grain doses of potassium iodide thrice daily. I also used the galvanic current to the closed lid, and in addition with fixation forceps rotated the eye strongly towards the paralyzed muscle

at each visit. Three months of treatment shows very little progress, as the eye can not turn outward beyond the median plane.

While it is not probable that the paralysis is due to the atropin, yet I am in the dark as to its origin; and the cause being in doubt the treatment of course must be empirical. The patient complains of constant headache with daily exacerbations, thus raising a suspicion of a cranial lesion.

DISCUSSION.

H. S. Willard: This case certainly shows a most interesting as well as a perplexing condition on account of its origin and future course.

The onset of paresis of externus of one eye and hyper-action of the internus of the other coming on simultaneously without any logical cause is not, I believe, a very common occurrence, and one might be justified in suspecting a paralysis of the external rectus in the right eye rather than a fault of the rectus internus. I cannot believe that the mydriatic had anything to do with the origin, unless it be one of those nervous reflexes which so frequently follow in neurotics of the age of the case under discussion. In very few of the cases of paralysis of the rectus externus have I been able to ascertain the exact nature of the lesion, and so have been in the dark as to a rational homœopathic treatment. I have usually resorted to pot. iod. in physiological dosage, and have always carried it to the point of saturation of the system before any appreciable improvement has been apparent. Personally, I do not believe the dosage of the iodide given in Dr. Brown's case was sufficient, as fifteen grains a day is hardly able to saturate the patient to the point we desire. I take it from the dates given that this patient has only been under observation about two months, so there is still hope for improvement, as I have had cases run along for double that time before effecting a cure. Neither do I see the advisability of a tenotomy upon the right internus, which was so affected that good fixation could hardly be expected.

E. D. Brooks: I did not hear mention of any attempt to use the indicated remedy homœopathically for paralysis of that nerve. There is such a thing as a remedy homœopathic to paralysis of the ocular muscle or any other muscle. I would like to know if it was tried and failed. If not tried, why not?

B. G. Clark: As long as it was not tried and physiological doses of iodide were tried, in all probability the cure would be prevented by the indicated remedy even if it had been tried later. In other words, the case was spoiled.

George W. McDowell: May I ask Dr. Clark if he means to have us infer by that statement that the iodide of potash will not cure paralysis?

Dr. Clark: I do not mean to infer anything of that kind. I mean to infer if that was not the indicated remedy and was not given in suffi-

ciently large doses, that the patient was so under the effect of the iodide that probably the indications for it would be so masked that the curative drug could not be found.

John L. Moffat: The point is not that the iodide was given, but the fact that the homœopathic remedy was not tried before allopathy was resorted to. If we are homœopaths let us be homœopaths; if we are allopaths, and our remedies are no better than is the empirical allopathic practice, we ought to know it.

Dr. McDowell: If you had a case of external rectus paralysis diagnosed as due to tumor of the brain, what remedy would you use and what treatment would you pursue—the iodide of potash or an indicated remedy?

Dr. Brooks: I would study the case first as to the diagnosis, and if a neurologist, pathologist, and others had made a correct diagnosis, I should try to find the homœopathic remedy; if not successful with that I might possibly use something else.

Dr. Willard: I have done my best in a number of cases seen in this condition to try to arrive at a homœopathic similimum, and in the majority of cases it has been practically impossible to reach a conclusion upon any drug upon which I could place any faith whatsoever. The majority of these cases have been seen in the clinic where it has been pretty difficult to insist upon a man taking the indicated remedy for a few months at a time. My practice has been to use the iodide of potash, but not in small doses as given in this paper. The only relief I have been able to get is by pushing it to the point of saturation.

J. Miller Hinson: I believe all such paralyses are usually results of syphilis, and it is my habit to prescribe the iodide of potash in heavy doses, or otherwise if there is any question as to the cause, and I find that custom yields good results.

Wm. F. Beggs: I had an interesting case a few years ago with a man who had been in the hands of an old school specialist before he came to me. I did my best to prescribe, and although he gave no history of syphilis, from the fact of his being a bachelor, his age, and general habits taken together, I was warranted in assuming the possibility of it and pressed the iodide of potash up to the point of saturation, or ninety drops three times daily, with no benefit. Then I consulted a syphilographer in Philadelphia, Dr. Wright, and he wrote me, "Your diagnosis is all right; give him mercury." I stopped the iodide of potash and used mercury, and in four weeks his eyes were straight and all right. I have a complete history of the case, extending over a period of three months, and he has had no recurrence of the paralysis.

The President: If you will permit a word from the chair in regard to the matter, I will relate a case I had some time ago, in which the diagnosis of every consultant seemed to be paralysis due to some peripheral influence (I do not know just what the influence was, it has not been determined). She was treated by various remedies for a long time

both before I saw her and for several weeks after, and among other things the antrum of Highmore was opened and it was said that suppuration was found there. I very much doubted that, as the work was done by a dentist, and also because of the fact that the patient came back to me for treatment without having been benefited after having been pronounced entirely cured of the trouble in the antrum in about six weeks. I hardly think a chronic condition of the antrum can be cured in six weeks. After electricity and other things had been used, the case finally yielded very speedily and nicely to stretching of the muscle, which was practiced every second or third day for several weeks, with gradual improvement in the power of the muscle, until to-day she has no trouble at all. After I obtained the limit apparently of the benefit to be derived from the stretching, reversed prisms were used. In this way she has continued to improve until now she has, I think, about seven or eight degrees of esophoria.

QUININE BLINDNESS; TWO CASES.

THOMAS M. STEWART, M. D.,

Cincinnati, Ohio.

OUR interest in a subject is often awakened accidentally, so to speak. It does not fall to the lot of any one practitioner to gain a knowledge of all things pertaining to disease by direct experience with every disorder.

While I had read of the influence of quinine upon the eyes and ears, and had had some knowledge of its effects on the auditory nerve, I must say that until a case came under my care and observation I did not know of its peculiar action, neither was I fully prepared to answer the anxious inquiries of the patient and his friends.

The first case was that of a healthy woman who took a teaspoonful of quinine thinking it to be magnesia. Within an hour she complained of a strange feeling in the head, she could not stand upright and there was trembling of the whole body. The bowels began to move freely, and nothing was thought to be wrong excepting "that magnesia never had acted that way in this patient." Three hours later the patient complained that "it grew suddenly dark" and that she "could not see." The next morning she was totally blind, her body trembled so that she could neither walk nor stand, and the ringing in the ears was intolerable.

The now thoroughly frightened husband of the patient sent in a hurry call because of the blindness.

We found the patient with a soft, small and slow pulse. Heart sounds distinct but dull. Pupils dilated and immobile to light test. Both eyes blind. No ophthalmoscopic changes at this examination. Deafness was present except to loud voice, three feet for right ear and six feet for left ear. Sense of taste and temperature were quite normal. Sense of smell was deadened. Nothing abnormal was found in the urine, not even quinine. The patient was conscious but bothered with hallucinations; the hallucinations were so troublesome that no examination of the fundus of the eyes could be obtained during the next three days. The second examination showed the optic discs to be pale;

vessels contracted and bordered by white lines. At times vision was very clear, then the "dark veil" would smother it, even to light perception. The field was contracted concentrically.

The acuteness of vision improved and at the end of four months it was $^{20}/_{40}$ in the right eye and $^{20}/_{30}$ in the left eye. No further improvement with lenses. The field was normal for white at the end of two months; at the end of the fourth it was $^{2}/_{3}$ of the normal for blue, red and green.

The treatment of this case, based on the fact that vomiting and diarrhœa had already occurred, was begun with arsenic 3x trit., every two hours, for its antidotal effect. Later, strychnia phos. 6x, and, finally, ferrum phos. 6x, were the only other remedies.

Baths, massage, bowel flushing and a careful diet were the accessory means employed.

The second case was a young man, a periodic drinker but not an habitual user of quinine for colds, nor had he ever been sick enough to call a doctor previous to an attack of malaria, for which quinine was given. He took six five grain powders in the course of twenty-four hours. The first three powders caused deafness and tinnitus. The morning following, that is after taking thirty grains, he awoke totally blind. His physician then put him on Fowler's solution with benefit.

One month later he was led into the office, and he acted as any other blind person. The foregoing history was obtained.

His central vision was surprisingly good, nearly normal in both eyes. But the field of vision was contracted to seven degrees; this explained the stumbling, awkwardness of the patient.

The physical examination was negative, the urine was free from albumin and sugar. The eyes appeared normal, pupils moderately dilated, reacting slightly in accommodation but not to light. Distant vision normal. Near vision, with + 4, enabled him to see one word or part of a word at a time.

The optic papillæ were pale, borders hazy, white lines noted along the contracted vessels.

One month later the field for white was 50 per cent. better. No improvement in the color fields, which were contracted to four degrees.

After two months of treatment the field for white was nearly normal. Color fields were one-half of normal, and no further improvement in them was noted. The patient, although he had been a periodic drinker, did not show the scotoma characteristic of alcoholic amblyopia.

The treatment of this case was strychnia phos. 3x, a powder four times a day; he had no other remedy, but accessory treatment was given along dietetic and hygienic lines.

Schulz, of Griefswald, has given to ten healthy students from $^1/_2$ to $^1/_8$ grain of quinine daily for nine days, then doubled the dose for two weeks. He reports neuralgia of the fifth nerve, disturbed digestion, increase of urine, and, last but not least, acceleration of the action of the heart. Even these small doses showed tinnitus, conjunctivitis and photopsies.

Other observers after doses of fifteen to thirty grains of quinine note acute gastritis, anæmia of the brain, pallor of face and mucous membranes, vertigo, drowsiness, tinnitus, contraction of retinal vessels, pallor of optic discs, contracted visual field, and pseudo Argyll-Robertson pupil. The action and reaction of the drug is shown in the temporary improvement of vision followed by variable loss of sight, the contracted pupil soon changing to a widely dilated one, the quickened heart action later passes to a slow and quiet one, heightened senses later show diminished sensibility, the rise of temperature is followed by a fall.

The blindness due to quinine may vary from that of total blindness to moderate dullness of sight. The blindness is generally sudden, some few cases show a gradual loss of sight. Total blindness may continue from a few hours to as many weeks. It has continued for three months.

The prognosis as regards restoration of sight is fairly good, though imperfect results are the rule. The field of vision is restored to a great extent, the color fields may be imperfectly restored.

De Schweinitz's experiments on dogs with quinine given in from one to four grains, hypodermically, show the blindness to come on in from three to fourteen hours. The ophthalmoscopic picture is the same in the animal as in the human. The miscroscope revealed an endovasculitis with thickening and changes in the vessel walls; changes in the disc not unlike a glaucomatous excavation. In the animal there was also noted atrophy of the visual path, viz., optic nerve, chiasm and tract.

The accepted explanation of spasm of the tunica musculosa, due to the effect of quinine upon the vasomotor centers, is back of any changes in the vessels themselves. Thrombosis may ocur in this way and atrophy result.

The idiosyncrasy of the patient is the uncertain element that makes the definition of a poisonous dose of quinine impossible. Nevertheless

all cases of quinine blindness may not terminate so happily as those here and elsewhere reported, it behooves the careful prescriber to use some judgment in giving this drug.

It seems to the writer that directions for taking the drug and for stopping it in case it is not well born, should be specific.

In intermittent fever, when quinine is indicated, the drug should be given for some hours preceding the chill, in the dose which experience shows to be the best for that case. After the chill or during the chill it is a waste of time to give the drug. The object is to break the chill, to do this use the drug and get its effects before the chill is due. The same rule will apply to other indicated drugs, and to any accessory means employed.

The ear symptoms of this drug are pretty constant ones, and a reduction of the dose or its frequency might well be done without detriment to the progress of many cases. We may safely conclude that—

1. Quinine may produce blindness.
2. The toxic dose is not determinable.
3. The duration of the blindness is variable.
4. The field of vision remains partially contracted.
5. Central vision usually returns to the condition existing before.
6. Color perception is restored to the central field.
7. The fundus picture is similar to that of white atrophy.
8. De Schweinitz has shown in dogs atrophy of the entire optic tract.
9. Treatment in some cases is nil.

DISCUSSION.

G. DeWayne Hallett: In DeSchweinitz's article on The Toxic Amblyopias in Norris and Oliver's work, he says that he has been able to collect but eighty-one reported cases where quinine had caused blindness. That Dr. Stewart should have had two is a fortunate clinical experience. In thirteen years of clinical work in this specialty no cases have come to my obcervation, and I have treated many thousand patients. In consulting the literature of the subject I find that the author's cases and conclusions are in accordance with the reports of others. In the way of pathology I believe the researches of Ward A. Holden are the latest, and I can do no better than to quote him where he says: "A number of dogs were killed at periods ranging from two hours to seven weeks after the first injection of quinine, and the eyes, optic nerves, brains and cords were examined by the Nissel-methylene-blue method for cell changes, and the Marchi-osmic-acid method for nerve

fibre changes. Retinas examined on the third day, after several toxic doses had been given, revealed degenerative changes in a few ganglion cells (vacuolation, paleness and absence of chromophilic granules and breaking down of the cell body) and changes in the nerve fibres (a deposition in the nerve fibre layer of larger globules of a myeline-like character)." These degenerative changes gradually increased, and by the forty-seventh day the ganglion cell layer and the nerve fibre layer had almost disappeared.

The changes in the optic nerve were first noted on the seventeenth day, consisting in breaking down of the medullary sheaths of the fibres, and this degeneration of the nerve could be traced up to its fibres in the external geniculate body and pulvinar." In other words, and again to quote Dr. Holden: "With the lessened but not obliterated blood supply due to spasm of the vessels in quinine poisoning, the less resistant elements of the inner layers—the ganglion cells and the nerve fibres—break down, while the cells of the inner nuclear layer are not visibly affected. An ascending degeneration of the nerve fibres follows the retinal changes."

The cause of the primary contraction of the retinal vessels, which creates the ischæmia, has never been discovered. Since quinine in large doses and by idiosyncrasy has so serious an effect on the perceptive elements of vision, it should, I think, be regarded as a poison, and when a case is seen in the early quinine manifestations it should be subject to treatment by the method of antidotes and antagonists like other poisons.

If very early some help might be had from the use of active eliminants, while at a later period. alcohol should be thought of, and atropin by its effect in peripheral dilatation of blood vessels should antagonize quinine's antipyretic properties, and perhaps prevent the disintegration of retinal cells which is due to or promoted by the ischæmia of that tunic. For much the same reasons strychnine has also been advised. The remedies given by Dr. Stewart were given on their homœopathic indications, and it would seem to me that since both strychnia and phosphorus will in toxic doses produce a myelitis, they might often be called for, either singly or combined, for the symptoms and pathological changes of quinine amblyopia.

George A. Shepard: I have one case to report that is interesting. Two months ago a patient of mine, a boy seven or eight years of age, of extremely nervous temperament, came with the history of having had for a week or two attacks of dimness of vision, and at the time I tested his eyes he showed a vision of about $^{15}/_{50}$. The fundus showed no abnormality. He had a history of malaria, and at that time was having chills and fever, and said he was taking four or six grains of quinine daily—I forget the exact amount. The physician telephoned me to know if I thought that the use of the quinine was causing the dimness of vision. Examination of the boy's color field showed a very much contracted field, especially for blue; owing to the fact it was a non-

concentric contraction I considered the action of the malarial poison upon the central nervous system to be the cause of the dimness of vision, and not the quinine, and so advised to push the quinine. He did that and I saw the boy a week ago; at that time the chills had been controlled and his vision and color field had returned to normal, and in every way he was apparently well. If, when first seen, he had been taking a larger dose of quinine, I might possibly have thought it was due to the drug, and the presence of the non-concentric contraction of the color field was a point of diagnosis which helped me out.

Dr. Stewart: These cases are rare, because accidents and the peculiar idiosyncrasy necessary to pronounced symptom of quinine are rare.

NASAL REFLEXES.

E. W. BEEBE, M. D.,

Milwaukee, Wis.

OF the many diseases to which the human organism is heir none are more diffcult to diagnose or require more skill in the treatment than those of reflex origin.

Unlike most other affections, each case is a study by itself, and not infrequently is lacking in characteristic symptoms whereby it may with certainty be differentiated from those having a different origin. A recent writer in considering these diseases has said that "in order to have a true reflex we must have a sensitive nerve fibre connected with a central nervous cell or mechanism, which, in its turn, is connected with a motor fibre supplying some motor organ."

These conditions are beautifully exemplified in the mucous membrane of the nasal organ in its intimate connection with the respiratory system, for as Muller has truthfully said, "The mucous lining of the nose contains the most intricate and delicately sensitive nervous organization of any portion of the respiratory tract." This fact would lead us to suspect that the nasal mucous memberane in a state of congestion or inflammation would become a very frequent source of reflex phenomena, such has been found to be the case, a fact which is generally accepted and which needs no elucidation before an audience of this character.

It has also been suggested, and apparently with some degree of truth, that reflex phenomena from diseased conditions of the nose are not confined to the respiratory tract entirely, but that the nose is the seat indirectly of a variety of affections from which but few portions of the body are exempt.

Among these may be mentioned the following, which have been culled from literature bearing on the subject and which were said to have been cured by treatment confined entirely to the diseased condition of the nasal mucous membrane: Aphonia, asthma, asthenopia, agoraphobia, bronchitis, ciliary neuralgia, cardiac palpitation, cephalalgia, chorea, conjunctivitis, dyspepsia, enuresis, exophthalmic goitre, epiphora, gas-

tralgia, glaucoma, migraine, neuralgia, muscæ volitantes, œdemas, salivation, scotoma, spasm of the glottis, tumefaction of the skin, vertigo.

It is apparent that several of the diseases mentioned have no direct connection with the nasal organ, and the writer freely admits that he is not sufficiently versed in pathology to account for their alleged recovery by treatment confined entirely to the nose; he would be more inclined to think that cures were due to the natural recuperative powers of the individual than to the treatment mentioned, were it not for personal experience in nasal reflexes, some of which are quite as surprising and unexplainable as those above mentioned.

It is believed that it would seldom occur to the ordinary diagnostician to examine the nose in several of the diseases named for the purpose of determining their etiology, and one might with propriety doubt the probability of some of them being of nasal origin, yet no one of experience will, I believe, deny the possibility of such being the case.

It being conceded that certain diseases in more or less remote regions of the body are frequently of nasal origin, how is the fact to be determined and how shall they be treated? It is believed that there is but one way open to us which gives promise of success, and that is, as suggested by Pynchon, that we must first determine what constitutes a normal nasal organ, then examine the nose carefully in all suspected cases, and if deviations from the normal be found proceed to correct them at once by surgical means according to approved methods. This savors somewhat of the cut and try principle, which is not always the best to follow in surgical work, but it is so essential to the health and comfort of the individual to have full use of the respiratory organs that our labors will not have been in vain if relief is not obtained for the disease in question, as the health of the patient will undoubtedly be improved thereby.

It may be said that as consistent homœopathic physicians we should rely on the administration of the indicated remedy in the treatment of these cases; but there are two very good reasons why we should not do this: first, having a knowledge of the origin of the disease we should remove the cause before attempting to alleviate the condition by internal medication; second, experience has taught us that it is very improbable that there is such a thing as an indicated remedy in a purely neurotic disease.

There are three abnormal conditions of the nasal mucous membrane

now recognized from which reflex diseases may have their origin, first, nasal stenosis from septal spurs or hypertrophies of the turbinals; second, polypoid and other adventitious growths; third, hypersensitive areas of the mucous membrane with or without an accompanying rhinitis.

A casual inspection with mirror and speculum reveals the former at a glance, but this is scarcely so with the latter condition; it will often be overlooked by the careless observer, there being but little congestion or other abnormal appearance of the membrane whereby the fact may be determined; in truth, it is not unusual to find them blanched or lighter in color than is usual, and one must not be satisfied with his examination until he has swept his probe carefully over all portions of the superior, middle and inferior turbinals as well as the membrane covering the septum.

Nasal stenosis due to septal spurs or to hypertrophies of the turbinals I need not say is of common occurrence and is often the source of great discomfort to the individual; not infrequently it is the direct cause of reflex disturbances, but perhaps hypersensitive areas involving the attic, middle and inferior turbinals are quite as often the source of such conditions, and will be likely to be overlooked entirely unless searched for with special reference to the same. When found, exquisitely sensitive as they are, the patients themselves will hardly be aware of the abnormal state, and it is with difficulty sometimes that the person can be convinced that such extreme sensitiveness of the mucous membrane is not common to all.

The wife of one of my professional friends was greatly incensed because the source of her asthmatic attacks was traced to a hypersensitive nasal mucous membrane, from which she had been a lifelong sufferer; she declared with a good deal of feeling that "however much she might suffer otherwise, there was nothing wrong with her nose," and she left my office in anything but an amiable mood, after a somewhat lengthy conversation on the subject. A later visit, however, with a generous application of cocain to the nasal cavity, convinced her of the truthfulness of my diagnosis, and surgical treatment directed to the source of the trouble gave her marked relief, which continued during the remainder of her days, although her suffering had been of thirty years' duration.

In tumefaction and redness of the skin covering the nose it is extremely difficult to convince patients that operative procedures within the nose are necessary to relieve the discoloration, and it not infre-

quently occurs that they will only permit such procedures after exhausting the whole category of salves and washes without obtaining the desired result, yet relief promptly follows correct operative treatment.

A beautiful young lady of my city in perfect health, with the exception of a nose that in appearance would do credit to a ward heeler, had been under medicinal and local treatment for a long time without avail, yet she was cured in a few weeks by the removal of the diseased areas of the inferior turbinals and with less than a half dozen treatments.

Quite recently a lady of about fifty years of age presented herself at my office suffering apparently from chronic bronchitis of many years' standing, and from which she had obtained little or no relief by the usual treatment in such cases. The character of the cough being deep, dry and racking aroused my suspicion that it was possibly of reflex origin, and the temporary relief obtained from spraying the nose with cocain confirmed them; her long period of suffering succumbed promptly to operative procedure upon the nasal mucous membrane.

Experience with hay fever sufferers leads me to believe that although there is usually evidence of a neurotic habit in most subjects, yet the distressing symptoms are promptly relieved by correct treatment of the nose under favorable conditions, the most important of which is that the treatment must be thorough and repeated if necessary as often as sensitive areas are discovered. By treatment I have seen some of the worst cases made fairly comfortable, and without the necessity of making yearly journeys to places where such conditions are unknown.

So frequently do we have evidence of nasal reflexes among those known as "the better class," that the wise physician will, I believe, always consider the possibility of such a condition when searching for the etiology of the case under consideration, and particularly so if the respiratory organs are those most directly affected; in obstinate cases he must not consider he has done his duty to his patient until the nasal organs have been put into the best possible condition by the necessary surgical operations.

I do not wish to be understood as saying that operations must be made on all noses not conforming to the normal standard, without a probable necessity for the same; but when the usual remedies fail to restore the afflicted sufferers, and it is probable that the case is of reflex origin, then I would advise that the necessary operations be made to put it into as normal a condition as possible with the expectation that relief will follow.

Of so frequent occurrence do I find nasal reflexes in ophthalmic work that I am at a loss to understand how those who do not practice rhinology can successfully manage a class of cases which it has been my fortune to meet with quite frequently.

A few days ago a young man consulted me with reference to a pain in his left eye from which he had suffered more or less for six months; no other symptoms being manifest than the neuralgic character of the pain, I was led to examine his nose for a possible cause, and a large septal spur was found to be in contact with the inferior turbinal of the corresponding side, nearly occluding the nostril. Three days after its removal with the trephine he reported complete relief from the pain, which did not recur as long as he was under observation.

A lady suffering from a constant weeping of the right eye was not relieved by the usual treatment with dilators, probes and lotions, but was quickly cured when her nasal organ was restored to a normal condition by surgical interference.

A young railroad employee under electrical treatment for defective vision, before going before the examiner for promotion, made rapid improvement in the vision of his left eye, but no particular progress was noticed in the right one after three weeks of daily treatment. On removal of an enlarged inferior turbinal of the corresponding side, his vision increased in a very few days from fifteen- to twenty-twentieths, and with relief to an overflow of tears which was manifest on the least provocation.

Having determined that surgical procedures are essential in these cases, what shall the technique of the operation be, and how shall it be performed with expediency with the least shock to the patient and with a minimum of suffering during and following the surgical work?

Local anæsthetics only, I believe, are desirable, and the most efficient instruments are probably the saw, punch, trephine and shears; the use of caustic medicines or of the electric cautery are not permissible, as a rule, as nothing but a complete removal where possible of the sensitive areas has proven efficient in such cases.

The preparation of the patient for most nasal operations is as follows: Sitting or gently reclining in the operation chair, with the head supported by the head-rest, with the instruments on a small table held by a swinging arm attached to the chair, and which should be on a level with the patient's face.

For illumination I use, as suits my convenience, an extra large Wels-

bach white gas light, or a concentrated fifty candle power electric light of a reddish tint, both being held by an adjustable arm attached to the wall on the left and behind the patient.

The ordinary head mirror is used for a reflector, a Myles speculum for the nostrils, held in position by an assistant standing behind the chair. Before beginning the operation the nasal cavity should be carefully cleansed by Seiler's or other alkaline solution, and this must be done before operations upon it are permissible. A word as to how this may be accomplished may not be out of place.

Having become dissastified with the inefficiency of the various nebulizers at hand, I have for several years used atomizers only in my nose and throat work; these are constructed of hard metal with glass receptacles for medicine and removable straight and curved tips, all of which may be sterilized and cleansed without impairing their efficiency; the spray produced by them, with watery or oily solutions, is all that can be desired.

By substituting for the curved spray tip a hard rubber conical nose piece to close the nostril, under forty pounds of air pressure, every portion of the nasal cavity may be quickly and thoroughly washed, the fluid escaping by the way of the opposite nostril.

Neither the anterior or post-nasal syringe nor any other method with which I have experimented, can be compared to this for efficiency, and I heartily commend its use to those not already familiar with it.

After the cavity of the nose had been carefully cleansed, a five per cent. solution of cocain is sprayed into the nostril, upon which the operation is to be made and the excess immediately blown from the nose; this is followed in turn by one containing normal salt solution and adrenalin, which is allowed to remain, the nose is then carefully packed with pledgets of cotton soaked in a saturated solution of eucaine, which are left in position ten or fifteen minutes while the instruments are being sterilized and preparations made for the operation.

Everything being in readiness, and the instruments covered with a napkin to prevent their being seen, the patient is brought in from the waiting room and the packing removed from the nostril, which is again sprayed with adrenalin and cocain solutions. A linen towel or napkin, cut to fit and fastened with a spring catch, is placed closely about the neck, and a hand cuspidor not unlike a large sugar scoop in shape, is given the patient to hold to be used as occasion requires; this is much more convenient for the patient than the stationary fountain cuspidores

in common use, as the patient is able to expectorate blood or mucus without moving from the fixed position so desirable in nose and throat work.

The operation being performed in the usual manner, the nasal passages are again cleansed with Seiler's fluid and the nostril packed with gauze saturated with the adrenalin solution, one end of which protrudes through the canula about four inches before it is inserted into the nostril. When the packing is completed both ends of the strip of gauze are at the entrance of the nostril where they are cut and tucked within by a probe; these must not be removed for twenty-four hours.

At the expiration of this time the nose is again cleansed with the Seiler solution and the gauze removed by drawing on the end last inserted; in this way I avoid almost entirely the anoyance and discomfort of the constant dripping of blood and mucus so common in my former work. Large portions of the turbinals may be removed in this manner, if necessary, with but slight hæmorrhage and a minimum of pain, and when the parts have healed and other hypersensitive points are discovered by means of a probe swept over the parts, they may be touched by the flat galvano-cautery point, one side of which is protected by a strip of mica to prevent burns of adjacent structures and consequent adhesion of opposed parts.

If there be obstruction to free attic drainage the protected trephine may be use with the dental engine to enlarge the apertures and facilitate respiration.

As before stated, such treatment must be thoroughly carried out, as it is possible that in many cases benefit has not been obtained that would otherwise have been secured by reason of not being sufficiently thorough in the work. Writers on the subject, I believe, have gnerally been too conservative in this respect, as we are led to infer that there is danger of producing objectionable atrophic conditions by too free surgical interference; this has not been the experience of the writer.

175 Wisconsin Street.

DISCUSSION.

Fred. D. Lewis: The consideration of this very valuable paper leads me to the repetition of a statement I made some time ago in a paper read at a meeting of the New York State Homœopathic Medical Society. I then declared that I believed the time was coming, and at no very distant date, when the family physician would not consider that he was doing his duty to his patient until he had before him reports

from the various specialists who were prepared to make complete examinations in their particular fields. The general practitioner would then be considered more in the light of a family adviser than a physician; he would be a specialist in materir medica and would select the indicated remedy for such symptoms as remained or presented themselves after the correction of all other abnormalities. All reflexes are not traceable to the nasal cavities. We all know what remarkable and sometimes unlooked-for results follow relief of eye-strain; what profound symptoms and even death result from an uncorrected urethral stricture. That the correction of nasal deviations from the normal by surgical measures is of the greatest importance we all know by experience in our particular line of work, and it is by such papers as the one we have just heard that the family doctor will be made to see the matter in the same light as ourselves. The treatment of sensitive areas in the nasal cavities has not resulted in the relief of reflex symptoms to such an extent in my practice as is reported by Dr. Beebe, but perhaps the fault is mine in that I have not so carefully searched for them or have not given them when discovered the consideration due to them. I have learned a lesson from this paper that I hope will be valuable in the future. The preparation for and the technique of surgical operation within the nose has been thoroughly and completely outlined so that nothing can be added. That hay fever is the bugbear of the laryngologist I think most of us will admit, and its relief by surgical interference in my hands is confined to a very few cases. I believe with Hollopeter that frequent and thorough cleansing of the Schneiderian membrane is of great value to relieve the distressing symptoms, and with Bishop in its uric acid origin. In my opinion the most frequent site of nasal reflexes is contact of the middle turbinal with the septum, and I can, perhaps, close these remarks most appropriately by citing two cases, one of the most profound and the other the least marked that it has been my good fortune to relieve. The first came to see me without any hope that I could help her, but merely to satisfy a friend; her baggage was packed and she prepared to spend the winter in the South. She had an agonizing cough, lost appetite and flesh rapidly, had a hectic flush and believed herself to be far advanced in consumption. There were no night sweats nor temperature, but she had two very much enlarged middle turbinals, which I removed, sending her home in a week a well woman. This was some ten years or more ago, and recently she reported no recurrence of the distressing symptoms. The second case came with a child for adenoid operation, and while in my office asked that I examine her. I found one middle turbinal pressing on the septum, and relieved it by operation. A month later she called again, and I asked her if she had noted any change, when, to use her own words, she said: "I find I am less inclined to spank the children on slight provocation."

The most promptly relieved symptom was in a recent case where

asthma had existed from early childhood in a woman who came for treatment of her throat. Here was also an enlarged middle turbinal, the removal of which relieved her asthma before she had left my office. She expressed great surprise as she had given up all hopes of relief. I find in examining my records that a very much greater percentage of nasal reflexes are found in women than in men or children.

Thomas M. Stewart: When we have special cases so out of the usual line, it would be of interest to know the special conditions present and the special operation that was done. There are many ways of doing some of these operations on the turbinated bodies, and I think when it comes to reflex cases the method should be specified. In removing spurs and doing any other operation within the nasal cavity where we have to use a packing for secondary hæmorrhage, I have found that white gutta percha, which is easily cut with shears to fit the cavity, placed over the part that has been abraded by the operation before the packing is inserted, is very satisfactory; but in most cases the Simpson compressed splints with the gutta percha instead of antiseptic cotton make an ideal packing. The packing comes out without sticking, there is no sticking of the gutta percha, and it is done in less than one-fourth the time of the old way of doing that sort of work.

A. W. Palmer: I have had some experience with these reflexes, as no doubt all of us have had; one extreme case was very interesting to me, and I think may also be to the members. The patient was a man about forty-one or two years of age, who was sent to the hospital by a physician for the removel of polypi. His condition was this: He was an expressman, had owned a couple of horses and a wagon, but was so weak he could not handle trunks, etc.; he lost all confidence in himself and could not take care of his business, so sold it. He was muscularly weak, and it had taken such effect upon his nervous system that he was troubled with nightly emissions, although a man settled down and with family. About that time I read several articles on nasal reflexes, and made up my mind that this was a good case to try the effect of the removal of the irritation of these polypi.

So we removed eleven polypi, I think; that was in the early part of July, and we gave him sac lac. so he would not go away. Two months later the man had regained his self-confidence to such extent that he was going to buy a horse and wagon; the emissions had ceased; he was physically stronger, and as an expression of gratitude, he removed a large piano for me, which gives you an idea of his muscular improvement. That was an extreme case of neurasthenia. I can find little other reason for improvement than the removal of the irritation in the nose.

Howard P. Bellows: I had not the slightest idea of speaking upon this subject when I came in the room, but I am much interested in it. There was a time I did a good deal of nasal surgery, but recently do practically none whatever. As a reminiscence I have been thinking of a

lady missionary from Japan who same to this country some years ago for a period of rest. She was troubled greatly with catarrh, and came to me to have her nasal cavities put in good condition before she returned to her work. I went at the treatment systematically, it being chiefly surgical, and all the time I was working she was troubled with a persistent, irritative laryngeal cough, which was chronic, a cough which I expected to cure with rumex crispus, to indicate to you the nature of it, but the cough did not respond to this or to any other remedy. It was a very unsatisfactory matter, but all the time I was prescribing for this cough I was carrying on the mechanical work. There was on one side of the septum a spur, which was comparatively insignificant; it was not in contact at any point; I had not paid much attention to it. One day I sawed off that spur, in the course of routine, and with it the cough disappeared and did not return. It was a purely reflex cough which would not be suspected from the appearance of the parts; yet there was the exciting cause, and the removal of that comparatively insignificant spur in the nose cured the laryngeal irritation and cough.

Harry S. Weaver: I would like to recite a case very similar to that of Dr. Bellows. A young man had a persistent winter laryngeal cough that had gone over a period of years, and recurred each time as the weather would become cold. I examined his nose very carefully and found a congested and thickened septum, that is, the cartilaginous septum was very much enlarged, so it curved out making an S-shape curve, so that on one side it was in contact with the opposite wall of the nose. I made a small incision and dissected the mucous membrane from the cartilage, which was very much thickened, and then with a pair of curved scissors took out the anterior end of the cartilage. This can be done very nicely, and the wound closed with one stitch, which permits healing almost by first intention. I did that in this case, and almost immediately the cough disappeared. That was six or eight years ago, and his cough has never returned. Another thing, for the packing in these nasal operations I have made it a rule to use a little sterilized or iodoform gauze, but always saturate it in a solution of sterile liquid albolene which permits the removal of the gauze with little bleeding or pain to the patient.

J. Ivimey Dowling: Occasionally fevers of obscure cause that are improperly diagnosed as malarial or incipient tuberculosis may sometimes be found to be due to suppurative conditions of the attic, ethmoid cells or some other of the accessory sinuses. Such a case came under my observation a short time ago. The child was emaciated, and looked enough like a picture of incipient tuberculosis to suggest the diagnosis. Various diagnoses having failed to explain the origin of the fever, she was finally put off as a curious case. At the time this patient consulted me she presented a typical picture of hectic fever, and naturally being interested in the nose I looked for the condition there and found it, and without operation, but with local treatment only, she was relieved

entirely, and so far as I know is entirely well to-day. Fever is a condition which may result from nasal suppurations, and so it is advisable to investigate the nose for the cause of fevers which resist treatment and of which the origin is doubtful.

J. N. Anderson: I have in mind several cases resulting in enuresis in children. Two boys, twelve and thirteen years of age, were entirely relieved, a little girl, sister of the boys, was operated upon the same day; she had the same trouble, and I may say that the trouble in both cases was promptly relieved by the operation for enlarged turbinals and for post-nasal growths.

Edward B. Hooker: We naturally prefer, at a meeting of this character, to report our successful cases. Now, we all know that a great many cases of reflex symptoms have not been relieved by removing what was apparently the exciting cause in the nose. Bear that in mind. I have failed in cases of asthma when I believed I should succeed; conditions in the nose seemed sufficiently abnormal to cause the disease, yet after correcting these conditions the asthma did not cease. Yet, on the other hand, once in a while we will afford a remarkable relief by removal of some fault in the nose. At our meeting in Buffalo, in 1897, I made a preliminary report of a case of epilepsy apparently cured by removing a spur from the septum, and I have kept track of that case since. The patient was a young man seventeen or eighteen, who had epilepsy from childhood. When he came into my hands the striking feature of the case was that before the epileptic attacks he said he always caught cold; in other words, he had sneezing and discharge from the nose. I examined his nose, and there was nothing wrong except a septal spur, which was sharp and of the kind that Dr. Bellows spoke of, about two-thirds back; it was not in contact with the inferior turbinal. Nevertheless, I removed the spur and the attacks of epilepsy immediately began to decrease, the intervals being six or eight months to one year. That was in 1897, and he has not had an attack of epilepsy in five years. This is a striking example of relief from a very grave disease by no other treatment than the removal of this sharp septal spur not in contact with any other part.

Charles H. Hubbard: I wish briefly to emphasize the fact that the practitioner who does eye and throat work has not done his full duty until he has examined thoroughly the intranasal cavities; this fact was brought home to me with special emphasis in a case of circum orbital neuralgia. The case was sent to me by a fellow practitioner; it could not, seemingly, be relieved by the so-called indicated remedy and local applications; careful examination revealed the middle turbinal pressing slightly against the nasal septum, and removal of this relieved the circumorbital neuralgia, which did not return. The trouble had been bothering the patient for a long time, and I could cite many similar cases to substantiate this statement of reflex influences.

John L. Moffat: We do not want to jump to conclusions. There

seems to be evidence that pressure by a diverted septum or by a spur may cause asthma or other reflex symptoms, but I cannot imagine how a free spur can cause a reflex neurosis. It would be much easier for me to imagine some direct or indirect effects from the scar of operation.

Dr. Beebe: I have not much to offer in reply, but may say that in an experience of many years in this line of work I have come to regard nasal stenosis of so much importance that when I find a spur on the septum I remove it on general principles, and I seldom fail to relieve my patient in one or more ways by so doing, often quite unexpectedly symptoms not before discovered disappear under such treatment.

In regard to small spurs, where there is apparently free breathing space and which are not in contact with the turbinals all the time, I may say that during turgescence, as when having a slight cold or when in a reclining position, or lying upon the side, the turbinals are congested and are much larger than normal; this is particularly true during sleep; reflexes are not unusual in such cases.

SOME USES OF ADRENALIN CHLORIDE IN THE EYE.

ALICE V. DUFFIELD, M. D.,

Chicago, Ill.

THE general action of adrenalin chloride is so familiar and has been so frequently written upon that it will not be discussed in this brief paper. I will simply state a number of instances connected with the eye in which it has been of great service to me, and close by citing two cases of especial interest.

The secondary irritation following the use of cocain in the removal of foreign bodies from the eye, for dilatation of the pupil, for better examination of the fundus, or for any purpose, is usually prevented by one application of the adrenalin, and should it appear a second application will be sufficient to stop the trouble. It also greatly assists the action of cocain.

In cases of phlyctenular or simple conjunctivitis the relief to the patient is almost immediate. In iritis I have good reason to believe that where the iris is so charged with blood that atropin could dilate the pupil with difficulty, adrenalin has greatly assisted the former drug and has helped to prevent synechiæ by its prompt and powerful action, whereas without it the damage would have been done before the atropin could have worked alone against the intense congestion.

In trachoma, chronic and acute, with all grades from slight irritation to violent congestion and pannus, the relief to the patient is great.

In all surgery of the eye adrenalin or a similar drug has been practically indispensable.

In the two cases following, this drug played a most important part:

Case One. Mrs. G., aged 69 years, called me to her home one morning, and said that her eye had been badly swollen and inflamed for five days. I found the patient in bed suffering great pain. Both upper and lower lids of the left eye and the left side of the nose were enormously swollen, bright red and very tender to the touch. The conjunctivæ, both ocular and palpebral, looked like raw beef. There was some chemosis, great photophobia and a temperature of 101°. The cornea was clear, the punctum lachrymalis tightly closed and the eye filled with an irritating secretion.

The patient would not submit to surgical interference, so I prescribed

locally hot applications, frequent flushing with boric acid, glycerine compresses and adrenalin 1-1000, morning and night, instructing the patient to rub over the lachrymal sac toward the punctum, three to five minutes after using the latter drug. Internally, hepar 3x was given hourly.

Three days after the first visit I found the temperature normal, pain all gone, the swelling greatly reduced, the conjunctivitis much improved and the punctum open so that pus could be easily pressed through.

The treatment was continued except that I alternated belladonna with the hepar. At the end of six days I found the swelling gone, temperature still normal, free drainage of the lachrymal sac established, and only a slight conjunctivitis remaining. The internal remedies were given less frequently, the hot applications and glycerine compresses discontinued, and adrenalin applied only every second day.

In thirteen days the conjunctivitis had completely disappeared. No more secretion could be pressed through the punctum, and the patient was dismissed cured. The daughter told me two months later that there had been no return of the trouble.

Case Two. Mrs. S., aged 58 years, presented herself to me with both lids of the left eye and the left side of the nose greatly swollen, with pain and tenderness over the lachrymal sac. The chemosis was so great that the conjunctiva protruded between the lids so that the eye could not be closed. The cornea was clear and iris normal, but patient complained of great photophobia and pain. A little mucus could be pressed through the punctum. The temperature was not taken.

I prescribed hot applications, frequent flushing with saturated solution of boric acid and adrenalin 1-1000, three times daily, with rubbing toward the punctum lachrymalis, as in the first case.

The patient failed to obtain her internal remedy, and did not return to my office for one week. At the end of that time she appeared with the eye in a perfectly normal condition, with free drainage established, and consequently the case was dismissed cured. Six months later she came to my office to be fitted for glasses, and had had no return of the old trouble.

While the hepar stopped the formation of pus in the first case, it could not dispose of that already formed, and surgical interference would have been absolutely necessary in both cases had not the adrenalin established drainage.

I have used the drug with equal success in nose and throat cases, but have found it of little use in the ear except in surgical cases.

100 State Street.

DISCUSSION.

D. A. MacLachlan: The Doctor's paper illustrates cases that I think we are all familiar with. It was my privilege two years ago to present a

paper to the Society upon the uses of adrenalin, and I do not know that I have widened its field of use very much since. I still use it in cases that I mentioned at that time. I think superficial cases like those mentioned in the paper are the ones that offer the best field for its use, and in conjunction with the eye lotions I use it in the form of a spray or otherwise to the nose. At the time of reading my paper I had had very little experience in the use of it in iritis, but mentioned two cases in which it seemed to aggravate the condition, and I think I have confirmed that observation since, so that I almost never use it in cases of iritis. The instance cited by the Doctor in which she uses it at the beginning in order to increase the action of atropia is interesting; it may be a good suggestion. My present use of it is more in cases of operation where I use cocain, than any other. I regard it as a very important addition to our remedies. I had a case last Saturday in which I used it with excellent results; one of the worst cases of hyperæsthesia of the retina I have ever seen, with very slight involvement of the conjunctiva. In these cases of lachrymal sac suppuration I have not had much experience with its use. I very rarely operate those cases any more, but inject the canaliculus itself with adrenalin. I think that may be the practice of others.

J. N. Anderson: I was just wondering whether my experience with this in nose and eye work has not been satisfactory in many respects because of its irritating qualities. I almost lost a case because of the severe irritation set up for hours, and I usually take the precaution to boil the solution before using it, so as to destroy the irritating matter. For this reason I do not use it as much as I should like to.

A. B. Norton: I regret I was not in to hear the paper. I have had more or less experience with adrenalin with eye diseases, but would like particularly to inquire of members whether any have had experience or unfavorable results in the way of increasing the tension. A number of cases have been reported of glaucoma said to be caused by the use of adrenalin. I never saw a case in my own experience, and I would like to inquire if any of the members have had bad results from the use of adrenalin locally.

G. De Wayne Hallett: Dr. Norton's question inclines me to speak of a case I have recently reported. It was one of simple cystitis (the old-fashioned serous iritis); in this, as is well known, we are quite apt to have some rise of tension. Adrenalin was used really for its cosmetic effect in blanching the conjunctiva. Tension immediately went up, but promptly subsided upon discontinuance of the adrenalin.

John L. Moffat: I should like to ask whether any of those present have noted the cases where they have driven the blood into the eye? I have heard of many instances of deep trouble being precipitated in the eye; cyclitis, iritis and fundus congestion caused or aggravated by the use of adrenalin for superficial congestion or inflammation, but have not had this untoward effect myself.

Dr. MacLachlan: I have briefly referred to an aggravation from adrenalin that I noticed in iritis; I have noticed it in one case in particular that I saw about every other day. It was a case of serous iritis; the patient suffered such severe pain, after each application, lasting two or three hours, that my attention was called to it markedly, and I noticed increased tension. Increased tension might occur in serous iritis anyway; but I continued the experiments, and every time the adrenalin was used there was marked increase of pain and increased tension; when I ceased to use that the high tension improved without the aggravation. I have repeated that over and over again in my own practice; I almost never use it in cases of deep inflammation, but I use it constantly in superficial and almost constantly with benefit.

I have not noticed any irritation from it in the ear, I only use it in cases with rupture of the drum, and have not used it very frequently in those cases.

Harry S. Weaver: I have used adrenalin considerably; I have also found that a number of cases were intensely aggravated by its use in the solution of 1-1000, causing a great deal of pain in the eye, and I have found since that time that a very much weaker solution can be used without any pain to the patient. So that in the most of my cases now I only use adrenalin about 1-5000 or 1-10000 in boric acid solution. Using it in that way I never get irritation such as the full strength solution of 1-1000 will cause. I have used it in a number of acute conditions and very frequently in acute conjunctivitis. I give the patient a bottle of boric acid solution and put in a few drops of adrenalin to take home and use three to five times daily as an eye wash.

Dr. MacLachlan: Is boric solution better than normal salt solution?

Dr. Weaver: I do not know about that. I simply favor the boric acid solution. You could use both solutions at the same time and then the solution will keep indefinitely.

Wm. F. Beggs: I would like to report a very interesting case. Last Tuesday I enucleated an eye in which there was sarcoma of the choroid; tension plus 1. In order to have a clear field I had a solution of 1-1000 adrenalin instilled by the assistant. Inside two minutes the orbital tissue enlarged, œdema setting in so I could hardly see the eye, and with the eyeball larger than the cavity, in that condition, it took forty minutes to get the eye out without injury. After removing the eye there was apparently more eye there than when I started, but I often wondered what did it. Was it adrenalin, dyscrasia or mechanical pressure?

E. W. Beebe: In this connection it will be of interest to know the preparation used, whether Parke, Davis & Co., or that the Armour & Company make?

Dr. Beggs: I have used the Parke, Davis & Co.'s preparation.

Dr. Beebe: I have been in the habit of using the Parke, Davis & Co.'s preparation, but find it so unstable—it deteriorates so rapidly

after a few hours' preparation—that recently I have been using Armour & Co.'s suprarenalin, and should like to ask the members whether they have gotten as good effects from this as from the former when fresh. It does not appear to me that I have, although it is a more stable preparation.

The President: Will any one answer Dr. Beebe's question?

E. D. Brooks: I cannot answer his question, but there is another preparation brought to my attention, as I presume it has been to others of the Society, which is "Adren," a hydrate of the active principle of the supra-renal glands. The manufacturer makes very good claims for it. I have not used it long enough to substantiate the claims, only this: I do not think it irritates the mucous membrane as much as does adrenalin chloride. That is one of the claims for it. They claim it is stable; whether it is or not I do not know, but am experimenting along that line, and presume the rest of you will have an opportunity to do the same. It is made by H. K. Mulford, of Philadelphia.

A. Worrall Palmer: I would like to ask Dr. Beebe as to Armour's preparation called hæmastasin. There is a preparation of hæmastasin on the market that we have tried at the Ophthalmic Hospital. I do not know how it has done in the eye, but my experience and that of one of the other men is that it is not as effectual for nose and throat work as adrenalin.

THE LINGUAL TONSIL.

THOMAS L. SHEARER, M. B., C. M., EDIN.,

Baltimore, Md.

TO that portion of the lymphatic tissue which is situated at the base of the tongue, between it and the epiglottis, forming the under segment of the faucial lymphatic ring, the name lingual tonsil has been given. The tissue in this locality is structurally similar to that found between the palatal folds and in the vault of the pharynx.

This tonsil varies not only greatly in the amount of tissue composing it but also in its formation. In some cases one finds merely a few follicles, in others an attempt to unite the follicles and form a decided tonsil in appearance, while again one may encounter a large mass which resembles in size a palatal tonsil.

A most interesting point which I have never seen alluded to by any author is the fact that the lingual tonsil, when well developed, is arranged in such a manner on each side of a median raphe as to present a right and left half corresponding to the palatal masses. The importance of this observation will be made evident later on.

Wherever found, lymphoid tissue undergoes the same pathological changes, and in its hypertrophied condition at the base of the tongue it gives rise to symptoms which are both varied and at times distressing. It is readily understood that normally the space between the epiglottis and the base of the tongue must be fairly clear to permit free movements of the laryngeal lid and of the tongue.

In no class of cases do we see such disastrous results to the voice as in public speakers and singers whose lingual tonsil is hypertrophied. The tongue is then practically like a horse whose jockey is too heavy for his back, and in proportion to the amount of interference with the movements of the parts, the greater will be the difficulty in producing the notes in the upper register of the voice; but, worse than all, owing to these abnormal conditions extra muscles are brought into play to overcome the resistance offered to the muscles which are naturally employed, and this leads speedily to faulty voice production with all of its

attendant evils. The use of the muscles which should not be employed in singing or speaking soon causes hoarseness and fatigue, with occasionally loss of voice for a time. If the patient persists in attempting vocal production under such conditions, structural changes in the larynx are sure to follow, with more or less aphonia.

Strange to say, I have never observed hypertrophy of the lingual tonsil in men, but always in women whose ages were from eighteen to thirty years. While the glandular mass may be the seat of disease independently of the other parts of the fauces, yet it also more frequently participates in the pathological states of the fauces when one finds peritonsillitis, tonsillitis, malignant tumors, diphtheria, mycosis in this region. When the tongue, faucial or pharyngeal tonsils are diseased, the lingual lymphoid tissue is apt to be secondarily involved.

Acute inflammation of the gland is much more common than is supposed; in many a sore throat whose chief symptoms are a full painful sensation on swallowing or on moving the tongue, while nothing is visible on ordinary inspection of the pharynx, the laryngeal mirror will quickly reveal the cause of the trouble. The curious point about this affection is that the factor which particularly determines the development of annoying symptoms is the temperament of the patient; while the actual amount of the lymphoid tissue and the relative space between the epiglottis and the base of the tongue are entirely minor factors. In people whose nervous temperament is highly organized and sensitive to irritants, the presence of a moderate degree of overgrowth of tissue will give rise to an extraordinary amount of disturbance.

One of the best arrangements of the symptoms produced in this way is the classification of R. Levy, who divides such cases into six classes:

1. Those attended merely by discomfort or paresthesia. Symptoms may have been excited and the mind of the patient fixed upon this locality by swallowing a foreign body or a rough particle of food; the patient seeks to be relieved of something which he imagines is still sticking in his throat. Some of these people consult a physician because they apprehend cancer or tuberculosis.

2. In a second class cough is a very persistent and distressing symptom, which is only temporarily relieved by sedatives, but yields promptly after the use of the galvano-cautery in adults and to swabbing with iodine and glycerine in children.

3. Dysphonia, vocal fatigue, throat ache and impure tone produc-

tion may be especially noted in singers, to whom these conditions are of the utmost moment.

4. Dyspnœa, resembling that caused by spasm of the larynx and occurring chiefly at night, may be so extreme that the patient dreads going to bed; eventually the general health may suffer from loss of sleep and mental distress.

5. Dysphagia may exist to a degree sufficient to impair nutrition; and,

6. Hæmorrhage may occur from an associated lingual varix.

This last is certainly rare. Nevertheless, in view of the extreme disquietude caused by the appearance of blood in the sputum, it is a satisfaction to assure the patient that the source of the blood is the base of the tongue and not the lungs.

Some years ago, in a paper read before the local medical society of Washington, I called particular attention to the peculiar type of cough caused by lingual tissue hypertrophy. It resembles a sharp, explosive bark and sounds as if one were coughing into the bung-hole of a barrel. Sometimes the cough will last for hours at a time, with violent paroxysms, and only stop when the patient is completely exhausted.

And, by the way, one at times meets with a patient whose cough possesses the "bung-hole" quality, but the irritation may be traced to hypertrophy of the Luschka tonsil in young subjects and always after they have shown evidence of having contracted fresh cold in the head; this type of cough wherever and whenever encountered is invariably the result of mechanical irritation. One of my cases coughed regularly every morning from six to eleven o'clock. In some people any attempt at lying down at night, especially resting upon the back, would instantly be followed by a paroxysm of coughing produced by the base of the tongue falling toward the posterior wall of the pharynx and setting up symptoms from pressure against the tip of the epiglottis. Patients who possess this unfortunate condition cannot bear anything tight about the neck, and often dread to hear anything told which may cause them to laugh, as few coughs are so exhausting as that resulting from the lingual irritation. One often finds associated with the above-mentioned symptoms, neurasthenia, general debility and disordered digestion; it is, of course, most necessary to correct these important departures from the normal line of health and by so doing one at times relieves the entire trouble with very little local treatment.

As regards hæmorrhage from a lingual varix, I can only say that one

may find a loss of blood occurring from this region in persons whose tendency is towards varicose veins in the lower limbs, hæmorrhoids, etc., and in some instances of scorbutus it is very apt to bleed, if the disease be of a very severe type. In a case of mine, a woman, aged thirty years and a hæmophile who developed scurvy, the hæmorrhages from the lingual region were alarming both on account of their size and persistence. The use of adrenalin locally and the recognized treatment of scorbutus internally, after a time—some weeks—relieved the symptoms.

I have been astonished to find how often a bronchitis of a moderate severity, but which presents a cough out of all proportion to the chest symptoms, will be found to be largely kept up by either follicular pharyngitis or a lingual glandular swelling—acute or chronic. If such conditions are complicated by an elongated uvula, in a person of nervous temperament, both patient and physician can have ample opportunity to study the character of the cough.

Mycosis is decidedly more common at the base of the tongue than in other parts of the pharynx, and when one considers the peculiar position of the glandular tissue, lying on the floor of the mouth and constantly washed by secretions which contain organisms of a varied nature, one is surprised that more diseases are not observed in this region. In some cases the patient complains of a sharp, sticking sensation or a decided lump in the throat, and in many instances I have been able to locate the symptoms by merely finding *one-half of the lingual tonsil* more prominent and resting too close to the tip of the epiglottis. This gives rise to a corresponding sensation *on one side* of the throat only.

One must not expect always to have a cough from an abnormally developed lingual tonsil, for several reasons:

1st. The relative space between the epiglottis and the base of the tongue varies greatly, and what would seem a large amount of tissue in one case, because of a small space, would appear only moderate in a person whose glosso-epiglottic region was large.

2d. The high strung, nervous temperament is essential, one possessing conditions always ready to explode on the application of a suitable irritant. In singers and public speakers the difficulty is usually not cough—at least, of the pronounced type,—but fatigue on using the voice and difficulty in good, pure tone production.

With these different degrees of hypertrophy and in people of varied temperament, when should one direct special treatment toward the lin-

gual gland? I think that it will be admitted by most observers that, for purposes of good, clear, natural singing or speaking, there should be a clear space, even if very small, between the epiglottis and the base of the tongue when one examines with the laryngoscopic mirror in the usual way: with the tongue pulled well out of the mouth and the patient saying "ah." If such a space does not exist, but one observes the lingual tissue crowding against the epiglottis, even if the total amount of such tissue is relatively small in a small throat, I always consider the relationship pathological, and treat it. In some throats with very little lingual tissue, the relationship is so close that one cannot see any space under any examination, and after treatment the space remains the same, but it is just as necessary to treat such cases when the symptoms demand it, as by so doing one diminishes or abolishes entirely the sensitive area composed frequently of prominent follicles which irritate the epiglottis. When one remembers how much discomfort may be caused by one or two good-sized follicles on the pharyngeal wall, it seems unreasonable to consider only growths as large as a walnut worthy of interference, because they happen to be situated upon the base of the tongue. It is, therefore, most necessary to study each case just as one would a move in chess, and be guided by the points above-mentioned. There may be some instances in which anatomically there is a large mass of lingual lymphoid tissue and with plenty of room around it, but there are no symptoms caused by it. If the person then is neither a singer nor a public speaker, and suffers no discomfort from this mass, I should consider it not a patholoigcal but an anatomical condition peculiar to that individual, and one which did not require any treatment. Personally, I have seen very few such cases, as all of those consulting me complained of pronounced symptoms, cough, spasmodic attacks during the night, sensations of foreign bodies lodged in the throat and fatigue in voice production.

As far as treatment is concerned, I have never used any cutting instruments for hypertrophy of the lingual tonsil; it is not the neighborhood for such methods on account of the varix often present, and hæmorrhage may prove troublesome. My own choice is the galvanocautery applied to both halves of the gland at each sitting, at intervals of about a week. The parts should be well cocainized by applying a 4 per cent. solution on a cotton applicator, so curved as to follow the descending outline of the dorsum linguæ, and by rubbing the solution well into the prominent points. During this time the patient pulls the

tongue forward and out of the mouth, holding the tip between the thumb and forefinger of the right hand, and with the laryngoscopist's cloth used for such purposes. The electrode, curved also in the same manner as the applicator, and guided by the small laryngeal mirror, is applied firmly over the projecting parts and the current turned on for a few seconds.

Care must be taken not to burn the edge of the epiglottis as an intense degree of œdema may result from it. Usually after a number of sittings the tissue begins to contract, and finally the irritation due to the close contact with the epiglottis is removed.

My only reason for presenting this short paper upon such a subject, apparently well known, is that the condition is very frequently overlooked in one's anxiety to see into the larynx; another reason is my desire to stimulate others to examine in every case, as a matter of routine, the region at the base of the tongue as carefuly as the rest of the upper air passages. It will pay to do so both on account of one's professional reputation as a diagnostician and because recognition of such an abnormal state enables us to cure a case probably overlooked and also unrelieved by another who had preceded us.

345 N. Charles Street.

DISCUSSION.

George B. Rice: Dr. Shearer's paper has interested me exceedingly, partly because it shows an exhaustive study of the subject, and partly because the conclusions he has reached regarding the operation are quite different from my own. In a paper read before the Washington Homœopathic Medical Society, on November 9, 1898, on "Hypertrophy of the Lingual Tonsil as the Cause of Cough," Dr. Shearer states at the close that the cure of this affection is most brilliant from the use of the galvano-cautery. In the paper just read, you will note that he still uses the galvano-cautery for removing this lymphoid mass at the base of the tongue.

My own experience has led me to believe that removal can best be accomplished by means of the lingual tonsillar guillotine, with which you are, I am sure, familiar. I have in the past five years operated upon something over two hundred patients suffering from symptoms caused by this hypertrophy, and have yet to meet with a case of troublesome hæmorrhage following the operation. It has seemed to me that the tissues about the glosso-epiglottic fossa were left in a much more nearly normal condition than when I used the cautery method.

It is somewhat difficult to limit the cautery effect to the lymphoid tissue alone, and consequently there is at times a certain amount of scar

tissue and constriction following, which interferes with the production of a pure vocal tone. If the cautery is applied superficially little good follows the procedure, and there is soon a recurrence of the growth.

I have used the guillotine many times on patients who had previously been treated by myself or another with the cautery. In a certain number of cases, where the blood vessels seemed unusually prominent, the cautery has been used once or twice on these blood vessels, and the operation completed with the guillotine. In my experience patients, as a rule, suffer less reaction from the cutting operation than from the other, and the healing is more rapid.

Concerning the other portions of Dr. Shearer's paper, I can say nothing, but I agree thoroughly with all that he has written. In properly selected cases, I know of no small operation which brings so much prominent relief from a number of distressing symptoms as this, and I wish to thank Dr. Shearer for bringing this subject so clearly and interestingly before the society.

Edward B. Hooker: I concur very heartily in what has been written and said. In the discussion I noticed the suggestion that sometimes electrolysis by the needle is possible in these cases. I never use the cautery for fear damage may be done, but with entire safety a needle may be inserted into the mass and it may be shrunk very appreciably by electrolysis. A number of treatments are sometimes necessary. It is not so rapid either as the cutting operation or as the cautery, but in some cases it is possible to do a good deal of good by electrolysis.

J. N. Anderson: I have had a good deal of experience in this condition of the tongue, and I have found that as a rule most of these cases are in people who have imperfect digestion, very frequently fermentative indigestion, and in some cases hæmorrhoids; my experience is, as a rule, that this trouble is more manifest in men than in women. The cases that I have observed at the conservatory of music are mostly girls under twenty years of age. I have often found in connection with the pharyngeal tonsil some remains of a lingual tonsil in contact with an elongated uvula, which is stretched down to the base of the tongue. I treat such conditions surgically, but follow with remedies, as I find most of them require constitutional treatment.

E. D. Brooks: I have never found it necessary to operate for lingual tonsil, enlarged from any cause. I always get along with my patients very nicely, and the internal administration of the indicated remedy. I am very careful about the selection of the remedy. Also if any conditions about the throat and post-nasal space need attention I give it, relieving adhesions between tonsils and pillars, and crypts of the tonsils, etc., and have then been able to avoid other operative measures.

Irving Townsend: I have just a word to say in reference to the necessity for these operations. There is no doubt but that the use of topical applications, such as strong solutions of nitrate of silver, etc., temporarily does away with the symptoms and relieves the irritation;

but so long as the growth remains, as soon as the transient effect of the astringent passes off the condition recurs. This, at least, has been my personal experience. Of late years I have been operating a good deal more, using the guillotine preferably. The only possible advantage that I can see in the cautery is the comparative immunity from hæmorrhage. The hæmorrhage after the guillotine is sometimes quite appalling, and unless forewarned, it is apt to be alarming to the patient. The continuous dropping of blood into the larynx or lower pharynx, lasting sometimes for half an hour or longer, terrifies the patient, who has not been advised in advance of this possibility. The electro-cautery was the popular method of reducing growths in the nose and throat fifteen years ago. More recently its use has been gradually restricted to a class of cases in which there seemed to be a valid objection to the employment of cutting instruments. The excision of redundant tissue, hypertrophies and growths by the knife, scissors, cutting forceps or guillotine, is infinitely preferable to cauterization, unless there be a good reason for using the latter method.

Charles H. Hubbard: No doubt that the detection of this trouble often escapes us because of our faulty examination. I would like to ask Dr. Shearer if he has noticed in these cases asthmatic breathing or any impairment of the respiratory function?

J. Ivimey Dowling: The suggestion of Dr. Anderson, regarding the condition of the digestive tract is valuable, and one which I always consider in these cases.

Dr. Brooks's suggestion as to the remedy is another good one; remedies which I have found most useful are either those which act upon the glandular lymphatic systems or upon the digestive tract. Pulsatilla, baryta iodide and calcarea iodide are often of service. I treat these cases with the cautery if small, and with the guillotine if of fair size, and I think the results are very satisfactory. There is one point in Dr. Shearer's paper I wish to ask him about: "He says, "When we remember how much œdema may be caused by one or two good-sized follicles on the pharyngeal wall it seems unreasonable to consider growths only as large as a walnut." I want to know whether that statement "large as a walnut" is correct or not? Is it a figure of speech?

Thomas L. Shearer: I will change it.

John L. Moffat: I would like to ask if Dr. Shearer, or any one else here, has had any experience with high tension electricity or hypostatic electricity in these conditions. I do not know that it will do any good, but I do know that it has helped tubercular aphonia and laryngeal tuberculosis. If so, is it worth trying on these?

Thomas L. Shearer: I can not remember all of the questions, as they were asked very rapidly. I had one case of asthmatic breathing associated with hypertrophy of the lingual tonsil; the patient developed the attack during the night and was compelled to spend the rest of the time until daylight sitting in a chair. Treatment of the tonsil relieved the

symptoms. As regards remedies, I always give the strictest attention to the condition of the digestive tract; the remedy that covers most cases is baryta iodide 3x trit. My experience agrees with that of Dr. Dowling in these particulars. In my paper I used the expression "as large as a walnut" merely in a sense of exaggeration and in order to impress forcibly upon the reader's mind the necessity of not waiting for large growths before interfering, but keeping an eye also on the small ones. For those cases of scorbutus associated with lingual varix I always prescribe internally kali phosphoricum 6x trit., two tablets three times daily, and continued for some weeks until the symptoms have disappeared. Naturally one must look after the diet in the usual way.

ADENOIDS.

J. H. BALL, M. D.,

Bay City, Mich.

IN presenting this subject I am not doing so with the expectation of being able to give you anything new or original in regard to the condition, but rather to present some phases of the disease as they have appealed to me.

The condition of adenoid or glandular hypertrophy in the upper pharynx is a true hypertrophy of normal lymphoid structure, the etiology of which presents many and varied theories ranging from lymphoid temperament to scrofulous tendencies. But out of all the numerous theories it is still a question to what extent general dyscrasia figures in the cause. The facts are that very rarely are we able to trace the condition directly to any inherited syphilitic or tubercular dyscrasia. While the possibility remains that such condition may figure prominently in the causation, yet definite proof of such is lacking.

The theory that lymphoid hypertrophies, especially in relation to the lingual tonsil, are tubercular in character or are an indication of a tubercular predisposition, has never been proven beyond the arm-chair stage; pathologically, no tubercular connection has ever been shown, while a tubercular family history is rarely, if ever, found. Removal of the hypertrophied structures clears up all symptoms of any inherited tubercular diathesis or condition. Again, it is known that negroes are very prone to tubercular and syphilitic conditions, as well as hereditary glandular involvement, but among them adenoids are almost never found, and they are especially free from catarrhal conditions.

Dr. Polglose, of the Michigan Home for Feeble-Minded, says that, so far as the records of his institution and statistics of others show, the condition of lymphoid hypertrophy is no more prevalent among the feeble-minded and defective than among normal children. In all the realm of medicine where can be found a more prolific field for the study of heredity than among defectives? It would seem that if syphilitic and scrofulous family histories were a prominent factor in the causa-

tion of this condition it would be found more frequently among defectives than among normal children; but such is not the case.

The pathological theory of arrested fœtal development has little beyond the histological structure of the gland to support it, and has nothing that I can see to offset what seem to be more common and plausible causes.

In climatic influences and the conditions of the mucous membranes which increase their susceptibility to such influences, we have factors which should be carefully considered, not alone for their etiological interest but also for the possibility of their giving us a means in many cases of preventing or checking the onset of the condition.

It is noticeable that adenoids greatly predominate in a damp climate subject to sudden and decided changes of temperature. Children reared in climates where catarrhal conditions are less prevalent more rarely have adenoids. The condition is more prevalent among city children who are more or less forced to breathe irritating vapors and whose lives are such to render them susceptible to temperature changes than among children reared in the country whose mode of living renders them more or less immune to climatic changes. Again, we recall the frequency with which adenoids follow eruptive fevers, in which the inflammatory process is especially marked in the region of the upper respiratory passages.

A careful elicitation of the history usually shows frequent attacks of rhinitis; very often the only reason given for consulting a physician is that of a continued cold in the head. Symptoms of nasal catarrh are first indications of the onset of the condition, and are present for some time prior to any definite symptoms of adenoids.

Where the condition is seen in its very incipiency an enlargement of the pharyngeal tonsil will be found, which is not a true hypertrophy, but instead is due to an acute inflammation of the normal tissue; but if relief is not afforded at this stage it soon progresses to a chronic condition, and from that to a true hypertrophy is but a short step.

Of course, in connection with all this it must be admitted that a child of the lymphatic type is far more susceptible to influences of temperature changes.

To what extent nasal deformities figure as a cause of adenoids it is difficult to tell, but it is likely that they have little or no bearing other than that incident to interference with free breathing. The preponder-

ance of evidence goes to show that in a majority of cases nasal deformity is a sequel of adenoids rather than an etiological factor.

In considering the pathology of the condition Kyle describes four varieties as follows:

1st. Soft variety, in structure almost entirely lymphoid; thin epithelial covering; basement membrane poorly formed; structure soft and friable.

2d. Œdematous variety, has very little increase of gland structure, but enlargement due to venous stasis and leakage from the vessels.

3d. Hard variety, has an increase of lymphoid tissue with overgrowth in the connective tissue element; mucous membrane lining has several layers of cells.

4th. Another hard variety which is supposed to follow inflammatory lesions of lymphoid structure in which inflammatory organization in the connective tissue has caused contraction.

While these are very good pictures of the structure of these various conditions, I am not inclined to agree with the author that the various varieties represent different types of the condition brought about by variation of the conditions active in the causation. The first variety is supposed to be a condition brought about by atmospheric changes and the physical condition of the child, while the second is one arising in cases due to intestinal irritation and circulatory irregularities, the fourth following inflammatory lesion. I think these four varieties represent simply various stages of the progress of the condition. In the first we have simply an acute inflammation of the normal lymphoid structure and the enlargement therefrom. In the second we have a chronic inflammatory process consequent upon the continuation of the first stage with a beginning hypertrophy of the lymphoid structures. In the third and fourth we have a still more advanced stage of hypertrophy with the resulting connective tissue formation and inflammatory changes arising from prolonged nasal obstruction.

To these symptoms which are so striking and familiar nothing need be added. But there are certain changes incident to this condition that should be carefully considered. The ever-present symptom of mouth breathing is the head to which can be traced most of the dangerous and serious symptoms of adenoids. The mental symptoms of dullness and mental apathy which are no doubt due to circulatory interferences led me to inquire of Dr. Polglose, before quoted, if he considered there was any relation between mental defect and adenoids. His reply was as

follows: "I do not believe this condition has any direct bearing as a cause of defectiveness, but being present it intensifies whatever the real condition may be. I think the presence of these growths is simply incidental. Given a case of any normal child who is afflicted with this condition, there is undoubtedly an impression made upon the nutrition of the brain and lymphatic system that tends to produce a backward condition of the intellect. However, I am under the impression that this is not always true, even though the condition may be present."

Again, under this head of nutrition and circulatory disturbances we often encounter a profound condition of anæmia, which can be demonstrated by blood examination to be from lack of proper oxidation. This is not necessarily true of every case, except where post-nasal obstruction has become marked. Another result of mouth breathing is the marked and prominent alteration of bony structures adjacent to the nasal passages.

Dr. Angle in his work on orthodontia says that normal nasal respiration, together with the normal relations of the dental arches, teeth and muscles, are such as to maintain an equilibrium and a mutual support necessary to normal development of the teeth and jaw. When we consider the muscular force that is exerted from birth, and that its constant action is designed to control the forces active in the formation of the face during its stage of development, and further, the fact that the bones of children during this period yield so readily to any pressure, it is easy to see what are the results from the changing of the mutual equilibrium or normal muscular balance by the child becoming a constant mouth breather. The narrowing and pushing up of the palatal arch encroaches upon the space above, making its effect apparent in the deflection of the nasal septum. Also, the changing of the proper dental occlusion forms a group of complications which renders the correction of mouth breathing more complex as the condition progresses.

It has been estimated that at least 90 per cent. of all cases of adenoids present some ear complication by involvement of the Eustachian tube. The conditions enumerated, taken together with the condition which obstruction produces in the post-nasal passages from accumulated discharges and reduces resistance of the mucous membrane, produce a most fertile field for the development of infection which can be carried to the accessory sinuses and bronchial passages. All point to the necessity of active measures in the care of adenoids.

301 Crapo Block.

DISCUSSION.

Virgil F. Piatti: Heredity cannot be considered a factor. All classes are affected by the disease. Children whose ancestry shows no history of any of the so-called dyscrasies suffer from it, while it is also true that those who show a so-called lymphoid or scrofulous history escape. The same holds true of syphilitic children.

As to the mental condition my personal observations have led me to believe that the peculiar mental apathy from which these children suffer is not due to the adenoids in over 10 per cent. of the cases, but that we find adenoids in those children who are mentally dull and who remain so even after the adenoids are removed.

The statement that 90 per cent. of all cases of adenoids present some ear complication by involvement of the Eustachian tube I think is slightly exaggerated (at least the involvement cannot be demonstrated). In looking over my records I find 65 per cent. to be the average in my cases.

Kyle's classification and causation of the different varieties is very beautiful and ingenious theoretically, but from a practical standpoint based on a large clinical experience I fear that both his classification and causation would find but few adherents.

TWO CASES OF SECONDARY HÆMORRHAGE FOLLOWING OPERATION FOR ADENOIDS.

FRANCIS B. KELLOGG, M. D.,

Los Angeles, Cal.

THE following two cases are reported for several reasons: 1st. They were the only ones ever met by the writer in his own experience; 2d. They occurred only about two months apart, after fourteen years of work involving many hundred operations for adenoids; 3d. One subject was a "bleeder;" and 4th. Both were controlled by what I regard as the most effective hæmostatic compound extant. My last reason is an important one for writing this paper, and it will certainly be appreciated by any one who is led to try the compound referred to. It consists of a 2 per cent. solution of calcium chloride dissolved in a 10 per cent. solution of gelatine. It should be made fresh at frequent intervals, as it becomes mouldy in a few days. It owes its hæmostatic properties chiefly to the gelatine, which stiffens and forms an artificial clot, supplementing the fibrin of the blood.

Case One was that of a boy, R. B., age 13, tall, thin and delicate in appearance. Anæmic from excessive attacks of epistaxis, which his mother reported that he has been subject to all his life. These sprung from a congeries of enlarged blood vessels on the septum, which were promptly cauterized. It was a new experience to me to meet this condition in a young boy, and led me to conclude that the subsequent hæmorrhage probably originated from a similarly enlarged vessel in the nasopharynx, which became eroded by ulceration of the operated surface.

The boy had enlarged tonsils and an adenoid growth. The former were removed by the tonsilotome after having been injected with a mixture of cocain and adrenalin. There was only slight hæmorrhage after this work. In fact, the injection of this mixture makes the removal of adult tonsils a practically bloodless operation, although I generally cut a furrow, outlining the tonsil, with the cautery knife, as an additional precaution.

A week or two after the removal of the tonsils the adenoid was removed by the Gradle adenotome. The immediate hæmorrhage was not especially severe, and the case was sent home without any fear of subsequent trouble. Five days later, I received an early morning telephone

message from Mrs. B., saying that Roy had been bleeding from the nose and mouth for three hours. I lost no time in reaching the bedside armed with the gelatine solution. Placing him flat on his back, without a pillow, with the chin extended to invert the head as much as possible, the solution was injected into the nose in large quantities. The effect was almost immediate. The hæmorrhoids ceased, and only once showed a disposition to recur, when it was again quickly controlled in the same way by the mother. The amount of blood lost must have been nearly a pint.

Case Two was that of a boy ten years old, who was operated for enlarged tonsils and adenoids, under chloroform. There was a history of rheumatism involving the heart, which led to great care in administering the anæsthetic. The operation was, however, satisfactory and uneventful. The primary hæmorrhage was somewhat severe and prolonged, but finally ceased. The boy lay for an hour on the sofa, and then sat up, intending to go. He at once began to spit blood, and blood also began to drop from the nose. It was then remarked that the blood in the tray remained fluid, there being no tendency to clot. The gelatine solution was again injected through the nose, but it was at least an hour before the hæmorrhage could be entirely controlled, although it was reduced to small proportions. He was kept on the sofa without moving until the next morning, and put upon a diet of consommé in which an ounce of gelatine has been dissolved.

It occurred to me then, and I believe it is reasonable, that gelatine, taken into the stomach, should impart coagulability to the blood. At any rate I determined then that in case I should be obliged again to operate a suspected bleeder, I would put him upon a gelatine diet for several days previous.

328 Douglass Building.

DISCUSSION.

H. W. Hoyt: These cases of Dr. Kellogg's are interesting and fortunately rare. His method of treatment certainly is worthy of trial.

It has been my good fortune not to have had a case of hæmorrhage following removal of adenoids of sufficient amount to need any treatment. I should be inclined, though, in such a case, to firmly place a tampon saturated with adrenalin in the naso-pharynx, and give the same drug hypodermically.

In a severe case of secondary hæmorrhage after removal of a tonsil adrenalin hypodermically stopped it at once, other methods having failed.

Joseph H. Ball: It has never been my misfortune to meet secondary hæmorrhage following an operation for adenoids or tonsilotomy. A friend of mine in a neighboring town, Dr. Slack, of Saginaw, told me of a case a few days ago which is very interesting. The case was

brought to him by a general practitioner with very much enlarged tonsils. For some reason, I do not know what, it was decided necessary to remove these tonsils, notwithstanding the family history was that of hæmaphilia. He said his instrument used for removing the tonsil was an ecraseur, such as is used by general surgeons, with a very large wire. The tonsil was removed with no great hæmorrhage other than would be expected; he also found a severe condition of adenoids which he removed with apparently very little hæmorrhage. The child was left in the hospital. That night when he visited the hospital and examined the child there was apparently no great amount of bleeding. About an hour afterwards he was summoned to the hospital, the child being in a state of collapse. Just before he got there the child had a spell of vomiting; large amounts of blood were thrown from the stomach. He then discovered the child had been having continuous hæmorrhage all afternoon and had swallowed the blood. The child was in a very low condition. He packed the naso-pharynx with, I think, iodoform gauze, and simply persisted in maintaining the packing there; the hæmorrhage was controlled, the packing removed the next day, and the child recovered without any more uncomfortable symptoms.

Thomas L. Shearer: During the past year a case of biliary calculi came under my observation in which operative interference was contemplated; an examination of the blood showed that fully seventen minutes were required for it to coagulate, and for this reason, fear of hæmorrhage, the operation was not performed. The patient was given chloride of calcium internally until the coagulation period was reduced to six minutes; it required about four weeks to bring about this desired blood change. This suggestion ought to apply equally well to cases of enlarged tonsils or adenoids. It only requires a few minutes to obtain this information before operating. The other point in regard to secondary hæmorrhage in adenoid work is most important. It is not always easy to introduce a tampon or anything else into the naso-pharynx of a child very frightened and when bleeding profusely; in such an instance the hypodermic injection of adrenalin chloride is a good suggestion. If any local application is possible I should prefer a solution of calcium chloride, a dram to the ounce of water. This solution is best introduced through a curved metal tube like a catheter, and syringed well up into the vault.

John L. Moffat: These suggestions of Dr. Shearer are extremely valuable. We must not forget that snake poisons produce lack of fibrin in the blood. The allopaths of late are preparing their bleeders for operation by giving them a course of calcium chloride; it may be well for us to resort to that if we do not find crotalus, lachesis, phosphorus, naja, or some other remedy indicated by the totality of symptoms. I read the other day of a secondary concealed (?) hæmorrhage after tonsillectomy; inspection of the throat distinctly showed blood (which was swallowed) spurting from one tonsil.

In the two cases reported I noticed a very important omission, nothing was said as to the dose of adrenalin. In 1901, Dr. Seitz, of Buffalo, reported* one of the first cases where adrenalin was used in the nose; ten minutes application of 1:1000 solution caused necrosis from ischemia. I should be afraid of local ischemia from the hypodermic use of adrenalin if given too strong.

In regard to the calcium chloride and gelatine, I am glad to have that suggestion, because there are times when we will be willing to try anything. The danger of invading the Eustachian tube must not be overlooked. When we pack the nares with a probe we feel and know where we are going; when we pour gelatine in is there not a possibility of occluding one or both Eustachian tubes?

Speaking of adenoids, a little niece of mine had been subject to uric-acidæmia almost all her short life and been troubled beside with nephritis, which had apparently been cured; obstinate and recurrent hives had been treated by a great many physicians of skill and repute unsatisfactorily, and my brother told me the other day he thinks she is cured by the adenoid operation. She was a rosy-cheeked child, did not have the typical face of the adenoid, was not a mouth-breather, but she did snore in her sleep. In regard to aprosexia, I believe almost any prolonged obstruction to respiration can produce it.

The relation of the high palate to adenoids and the septum, first brought out (to my knowledge) by Dr. F. Park Lewis, of Buffalo, several years ago, and alluded to in Dr. Bellows's paper, is interesting and important. How much does the adenoid affect the palate? How much does the palate affect the adenoid? To my mind the narrow high-arch palate is more apt to displace the septum and thus to act on the adenoids if there is a constitutional tendency toward them. An oral surgeon, a man of skill and repute, told me the other day that you cannot spread the arch of the palate until the second teeth are erupted. We do know the shape of the whole face can be changed and the mouth and arch broadened by persistent wearing of a plate.

I was very much surprised a little while ago upon learning that one or two of the leading nose surgeons in Brooklyn are operating adenoids in the upright position under ether; but upon attending their clinic I was correspondingly pleased. I think there are several doctors in New York who have been doing this for some time. Dr. French has devised a chair of which he can lengthen and shorten the back; the upper portion of the back has hooks and there is a head-rest. He anæsthetizes the child on a table with ether, never with chloroform, and nowadays begins with nitrous oxide. From a few words I have just been having in the other room I am inclined to think I shall try beginning with kelene (pure ethyl chloride) instead of nitrous oxide. Then the child is wrapped in a sheet and laid on the chair horizontally, a bandage be-

**Journal of Ophthalmology, Otology and Laryngology*, 1901, p. 104.

hind the neck and under the arms, is fastened to the top of the chair, straps are passed around the feet and waist, and the chair is brought into the operating room, horizontally. There are only two cautions. raise the head slowly and never use chloroform. The anæsthetizer sits in a comparatively low chair, the child's head resting on his knee with feet of its chair on the floor; gradually the chair is brought up to rest on its four legs; the head would flop a little but could be easily steadied. The chair was placed in front of a west window, late in the afternoon, and they had the finest light in the throat. The bleeding did not seem to be so troublesome in the upright position as I have seen in the horizontal position; and once they just tipped the chair forward and let the blood flow out of the mouth. Every child operated, and I saw a number that afternoon, had a fine color in the face, and the lids came partially open in almost all, so that you could watch the pupil very easily. Dr. French told me he has had thousands of cases with never an accident.

Herbert W. Hoyt: I wanted to ask Dr. Moffat why he felt so much afraid of adrenalin. I have used it in quite a number of cases internally and once hypodermically; in that case I gave ten drops of 1-1000 adrenalin in twenty minims of water hypodermically, and it seemed to control the hæmorrhage in less than two minutes, after removal of tonsils in an adult, whereas we had been using adrenalin locally with no effect.

Harry S. Weaver: In regard to hæmorrhage following tonsillary surgery it is my practice to thoroughly mop the tonsils with a pledget of cotton, then if there is any open vessel that has a tendency to bleed the hæmorrhage will occur before the patient leaves the operating room, and the possible secondary hæmorrhage avoided. I also do that following operations for adenoids; I thoroughly rub the post-nasal space with pledgets of cotton moistened in a glass of cold distilled water.

Another point concerning the control of secondary hæmorrhage is to thoroughly remove all clots before resorting to local applications. An instance occurring in my practice was a case of secondary hæmorrhage after an adenoid operation in which I simply washed out the post-nasal space and got rid of all clots, and then sprayed adrenalin through the nose and packed the post-nasal space with adrenalin solution 1-1000.

E. W. Beebe: It seems to me we have more secondary hæmorrhage to contend with since adrenalin has come into use than heretofore, and I wish to inquire of the members present if that has been their experience. It has been a subject which has been mentioned quite frequently in our literature of late, and it seems to me there is something in it.

A. Worrall Palmer: I wish to mention a remedy which I have used for hæmorrhage in the nose and throat with apparent benefit, that is, thlaspi bursa pastoris. It is conceded to be curative in supposed hæmor-

rhage of the kidney; reasoning from this I have used it in a number of cases where I could not find the bleeding spot. I think it really did good in a case of hæmaphilia which was taken to the hospital following the exraction of a tooth. I give five drop doses of the tincture every hour.

Regarding the adrenalin Dr. Beebe speaks of I use it always with nasal operations, but it seems to me the secondary hæmorrhage is a little more profuse than without it.

There are two questions I would like to have the members here keep in mind next year that I may hear from them later. In the last two years I have noticed almost all my operations on lingual tonsils are in persons very prone to bilious attacks. If not too much trouble I should like records made to find out if there is anything in that coincidence.

The other point is: It seems to me that in about eighty per cent. of all cases of adenoids and tonsils in children, I have found that the parents, either one or both, are predisposed to gout or rheumatism. I wish the members would think of that in making their records, and I shall be interested bye and bye to hear from it.

Dr. Ball: In speaking of secondary hæmorrhage treated by adrenalin, it has been my experience that the spray and local application of adrenalin does little or no good if you have a free bleeding surface; there is no chance for action on the bleeding surface where the adrenalin is washed away before it has time to be absorbed. I always use adrenalin before operating, but I also take precaution against secondary hæmorrhage by packing the nose. I am accustomed to use a section of compressed cotton with a piece of gauze on each surface to prevent adhesion of the raw surface of the nose to the cotton, and I never have secondary hæmorrhage. I remove the packing the second day.

I was very much interested in Dr. Moffat's report of the upright position in operating for adenoids. For at least a year or two it has been my custom to use the Trendelenburg position, and I have found it very satisfactory. The hæmorrhage, if any occurs, is usually gotten out of the way by the position of the head, and the shock is, I believe, much less.

Dr. Moffat: Is there any Eustachian trouble after it?

Dr. Ball: Very little.

Dr. Moffat: Is there less?

Dr. Ball: Well, I do not know as there is any difference in Eustachian trouble. I have never had any Eustachian trouble at all following an operation in the Trendelenburg position. I usually use a curette, and am very careful not to operate the curette in the region of the Eustachian tube, and after removing what I can with the curette I remove with the finger-nail of the forefinger the tissue around or over the Eustachian tube. In that way I think I avoid much of the possibility of any great injury to the mouth of the Eustachian tube.

ALBUMINURIC , DIABETIC, LEUKÆMIC AND ANÆMIC RETINITIS.

HAROLD WILSON, M. D.,

Detroit, Mich.

THERE are some diseases of the retina which appear to originate within that tissue itself, no related pathological changes being discoverable outside of the eyeball. The larger part of recognized retinal diseases are, however, only the incidental symptoms of a general constitutional affection. It is to this latter class that those diseases belong which I have been asked to consider in this paper. These particular forms of retinitis may be called secondary affections. They never represent the primary lesions of the disease, and in point of time, are generally late manifestations of it. Taken together they form a rather natural group. They originate in vascular alterations; the pathological changes which take place in the eye, and the consequent ophthalmoscopic pictures which they present, are considerably alike; they appear to be alike unaffected by local treatment of the eye, and may indeed be unmodified by any treatment whatever. These similarities make their point study very logical and proper. The best known and most common of these forms of retinal disease is the

ALBUMINURIC RETINITIS.

The interest of the ophthalmologist in this disorder, outside of the matter of diagnosis and prognosis, is largely academic. This has not prevented a careful study of the subject by many investigators, until we have a pretty accurate understanding of its pathology and symptomatology. It does not appear that this knowledge has thus far led to anything in the way of treatment that has proven to be of value except to emphasize the probability that local medication will never offer any prospect of relief. Yet even this inference is subject to the modifying influences of an ampler understanding.

The frequency with which this disease occurs in cases of kidney disease seems to be differently estimated by different writers. The average

frequency in about a thousand cases reported by seven observers is a little less than 25 per cent. Upon this basis we may assume that one-quarter of those who have kidney disease show also retinal inflammation. A much lower percentage has been given by some authorities.

The most common cases are those found associated with contracted kidney, although many cases occur in the acute nephritis of scarlet fever and pregnancy. Less often we find it in chronic diffuse parenchymatous nephritis and occasionally in amyloid kidney. Certain chronic diseases leading to kidney complications, such as diabetes and lead poisoning, may also show retinal changes.

Retinitis may also occur in cases in which no albumin can be found in the urine, whether it be persistently or only temporarily absent. Hence, in some cases, frequent and repeated examinations of the urine may become necessary Some of these cases in which the characteristic retinal changes occur without albumin being found in the urine have been classified under the name "retinitis albumosuria," and have been considered as a retinal arterio-sclerosis. It does not appear that there are any essentially peculiar retinal changes in such cases, and this classification has not yet been generally adopted. It is generally understood that the presence of albumin in the urine is not the determining factor in the production of what we call "albuminuric retinitis," and that we do not always find albumin even in definite cases of nephritis. It is open to question whether much is gained by this change in nomenclature.

The ophthalmoscopic picture is well known. Appearing in the fundus at various points are more or less numerous whitish or yellowish spots of different size. They are apt to be particularly numerous in the region of the macula, and here sometimes form a stellate figure more or less perfect. This figure was at one time supposed to be characteristic of the disease, but in reality it is neither characteristic nor typical, since it often fails to appear in albuminuric retinitis, and is found at times in retinitis of other kinds.

The edges of these small whitish or yellowish spots are softened and somewhat blurred. Large plaques appear, often whiter in color and with more distinct outlines. These as well as the small spots commonly lie in the inner retinal layers, and, occurring in the course of a blood vessel, may obscure it.

Here and there are retinal hæmorrhages, generally small. Upon or about the optic papilla these hæmorrhages are apt to be linear and

radiating, elsewhere, toward the periphery, they are rounder and more irregular in shape. Sometimes they become transformed into whitish patches, becoming white first at their centers, presenting an appearance common in pernicious anæmia and leucæmia. They disappear by absorption, seldom leaving any pigmentary remains.

The optic nerve may be unchanged unless the nerve is involved, which is not uncommon; when it presents the appearance of a neuritis varying from a slight redness with blurring of its outline to a marked condition of "choked disc."

There are evident alterations in the blood vessels; the veins are enlarged and tortuous; the arteries narrowed, not infrequently showing whitish streaks along one or both borders, which in some places may obscure the vessel itself.

Hæmorrhage into the vitreous and detachment of the retina may occur but are uncommon.

An œdema of the retina is more or less constant, visible as a clouding or indistinctness of the retinal surface, especially in the peripapillary and macular regions.

The ophthalmoscopic appearances may change slowly. The whitish spots may gradually increase in number and may coalesce into large patches. New hæmorrhages may appear and old ones vanish. In general, except in the cases of nephritis which recover, the picture becomes more and more complicated.

It is agreed that there are evident and characteristic alterations in the fundus, which precede the classical symptoms, consisting in changes in the size, course and texture of the blood vessels, but patients ordinarily do not consult the oculist until grosser alterations have so taken place that vision has become perceptibly impaired.

The pathological changes in the eye are primarily in the blood vessels, and consist of a hyaline or sclerotic thickening of degeneration of their walls, involving not only the vessels of the retina but also those of the choroid and other parts of the eyeball. The whitish spots seen with the ophthalmoscope are usually granular or fatty tissue-degenerative products. The supporting fibers of the retina become swollen, infiltrated and often partially degenerated. There is a serous effusion into the retinal structures. The nerve fibers are swollen and contain degenerative products such as granular or fatty particles.

It seems probable that the occasion for all these changes is, at bottom, an alteration in the character of the blood supplied to these tissues.

The precise nature of the toxic substances producing them has not yet been determined. During the progress of the kidney disease periods occur in which the amount of urea in the urine is considerably diminished. At such times there is usually an aggravation of all symptoms, ocular and general. This diminution of excreted urea has been made one of the criteria from which to determine the necessity for performing artificial delivery in cases of albuminuric retinitis due to pregnancy. Whether the retinal disease is due to the retention of urea or of other excretory products in the blood is yet unsettled, but it has been observed that an increase in the urea content of the urine may be followed by an improvement in retinal conditions. It seems probable, however, that the urea is not the real toxic factor in the production of vascular changes in nephritis, though it may be made to serve as an index of the degree of toxæmia.

The subject of treatment offers little that is of comfort, at least in chronic cases, to patient or physician. Still it must be noted that periods of improvement, apparently spontaneous, are often observed in the course of the disease, and that the retinitis of acute nephritis may entirely disappear with the nephritis. Furthermore, since a large proportion of nephritic patients do not develop retinitis, it is quite conceivable that in those in whom it might otherwise show itself, some form of prophylactic treatment might be found to prevent it, or if recognized in its earliest stages, possibly to cure it. In the meantime, about the best that can be done is to direct the attention to the patient's general condition, ameliorating this as much as possible, and to meet any special local indications with appropriate treatment.

In the retinitis of pregnancy the most important question is as to the induction of premature labor. There is no universal rule that can be applied. Where pregnancy is only an incidental complication in a previously existing and chronic nephritis, there may be little gained by its termination. The patient's expectancy scarcely exceeds a year or two at most, and the desire or necessity for a living child may outweigh all considerations as to vision. In strictly acute cases, premature delivery often preserves or entirely restores the eyesight. The circumstances and conditions of each case must be considered individually when the question as to abortion arises.

DIABETIC RETINITIS.

The ophthalmoscopic apearances in this form of retinitis are often not

to be distinguished from those of retinitis albuminurica. In general, there is less retinal cloudiness about the posterior pole and less optic neuritis. The typical picture shows numerous whitish or yellowish spots in the macular region, scattered irregularly, and not often assuming the stellate figure.

Albuminuria is very frequent in cases of diabetes, so that we may find the retinitis to be of the albuminuric type. Cases of purely diabetic retinitis are not common, but do exist.

The disease apparently begins in the blood vessels and leads to hyaline degeneration, œdema, capillary hæmorrhages and aneurisms.

The ocular symptoms are hardly so characteristic that a positive diagnosis can be made without a chemical examination of the urine. Concomitant disease of other tissues of the eye than the retina are more common than in albuminuria. An opacity of the lens or vitreous body may obscure the retinal symptoms. The functional examination of the eye should be carefully attended to in cases of diabetic cataract, since a coincidental retinitis may make the extraction of the lens useless or at least materially affect the prognosis for vision after the operation.

Local treatment of the eye appears to have no effect upon the disease, and constitutional measures are the only recourse.

LEUKÆMIC RETINITIS.

This form of retinal disease is a very rare affection. The retinal changes are interesting and characteristic, but cases are so uncommon that it is not worth our while at this time to enter upon their description. The diagnosis ought not to be difficult, particularly if an examination of the blood be made.

Local treatment, aside from the use of protective glasses, seems to be of no value.

Several cases of splenic leukæmia have been reported as symptomatically cured by the use of the X-ray. The condition of the eyes and the effect of this treatment upon the retinal trouble I am unable to state.

RETINITIS IN PERNICIOUS ANÆMIA.

Much of what has just been said applies to this form of retinitis. The writer has no personal observations to offer, which is probably the experience of the majority of practitioners. It is, therefore, hardly worth our while here to attempt any descriptive discussion of the disease. The diagnosis may be made by the ophthalmoscopic symptoms

taken in connection with the constitutional symptoms and an examination of the blood

DISCUSSION.

Thomas M. Stewart: This paper brings up certain ocular disorders upon which we certainly need more light. The retinal changes are due to faulty nutrition from blood changes in the eye. As in the cerebral cortex and parenchyma of the vital organs, the arteries are end arteries and defective circulation from any cause is not easily compensated by a collateral circulation.

With regard to the eye symptoms of renal disease, therefore, stress should not be laid upon the presence or absence of albuminurea. It is important to determine from time to time the proportion of each of the solids to the normal, as well as the presence or absence of the other abnormal products.

Retinal disease demands an examination of the other vital organs as well as the kidney. In renal disease retinal changes are said to occur in from six to thirty-three per cent. of all cases; the essayist says it is impossible to arrive at the correct proportion. Our own view is that the percentage has been under-estimated, and until a systematic examination of a large number of unselected cases of Bright's disease has been very carefully made we shall continue to speculate on this point.

It often occurs that the visual disturbances are very slight, even when the retinal changes are marked; thus the general symptoms often overshadow a Bright's retina.

The paper gives us little encouragement in the treament of renal cases showing ocular changes. The pathology of these cases shows them amenable to treatment to as great a degree as true retinitis. For we do not find the inflammatory conditions that we might expect in a disease so chronic in its course and of such severity. There is little hyperplasia of connective tissue; there is a coagulated exudate which escapes through the vessel walls, œdema and swelling of the ganglion cells.

The prognosis is always grave, optic atrophy is a frequent result of intense neuro-retinitis. Permanent blindness is a possible result when retinal troubles occur in successive pregnancies. Mild cases often completely recover. In chronic cases, particularly in cases having a pre-existing disease of the kidney, the prognosis as to life is grave. Improvement in the kidney condition is generally followed by a betterment of the eye condition.

The most important part of this whole subject is the treatment, and this is closely related to those factors which are involved in the chain of causes. The treatment of cases is not begun early enough, and we should therefore direct the attention of the general practitioner to the prenephritic stage.

The general practitioner often meets with cases of neuralgia, headache and undefined nervous symptoms. These cases are not relieved by the usual treatment. The urine may show no casts nor albumin; but we may find the urea or acid phosphates reduced, or uric acid may be in excess; the urine may be small in quantity excreted, often with an excess of oxalate of lime. This condition may vary a little, go on for some time, and we grow careless. The patient returns, some symptom makes us re-examine the urine, and we are surprised to find the clinical picture of chronic nephritis.

Another class of cases shows a decided relation between disturbed digestion and nephritis, especially with "fits of the blues." These are cases in the nephritic stage, the urine shows the merest trace of albumin; it is often transient; there is disturbed uric production or elimination.

Watch these cases, which show no albumin and no casts, yet some symptoms in remote organs annoy the patients and do not yield to treatment; watch them long enough and we may note the diminished excretion of urea, of the acid phosphates and of the sulphates, one or more of the solids will be persistently below the normal. So good an authority as Purdy states that reduction in the acid phosphates is as positive a sign of chronic nephritis as albuminurea. The reduction in urea shows deficient elimination of nitrogen.

Frequent careful uro-analysis is necessary. Once a year for every patient is none too much for those in health; always make it for even trivial complaints. Finding something abnormal, it may take many other examinations to classify the case, and then we must remember that our classification is the clinical one, for often the clinical diagnosis has been refuted by the findings of the autopsy. Our duty is to prevent that autopsy, to prolong the patient's life.

Finding the evidence of disturbed nutrition in the retina and locating the lesion in the liver, kidney, spleen or elsewhere, the treatment should be begun at once. We can do much along hygienic lines, even though we may not have classified the case properly as yet.

Inquire into the patient's diet, note the amount of nitrogenous food he is taking, note whether or not he is drinking tea and coffee in large amounts, thus intensifying the action and prolonging the presence of the nitrogen. Note the quantity of water, beer, wine and liquor he takes. Most cases need careful direction here.

Give directions how to care for the health, to change the clothing if damp from any cause, to avoid chilling the body and precipitating extra strain on the vital organs. Many cases get along beautifully in the daytime, but have sudden night attacks. These patients feel warm enough on getting into bed, but neglect to draw up a light covering to keep up the body heat, which falls a little during sleep.

Last, but not least, keep the skin clean, order plenty of baths. Hot packs over kidney, spleen and liver are of inestimable value. They should be continued for twenty minutes; sponge surface with cold

water, after removing packs. Massage in general is another valuable adjunct.

Internally the remedies will vary in different cases at different times. The tissue remedies are of great help, specially the phosphorus preparations.

The prophylaxis of nephritis is important. The non-nitrogenous diet for pregnant women is most desirable. For all cases we must guard the digestive function and the nervous system, for anything which continually irritates these two important systems leads up to renal disease. Over-exertion in the presence of a kidney lesion may precipitate an attack of uræmia. We should direct all patients in the care of the body, to keep the skin clean and warm, and to use plenty of water internally in small doses, frequently repeated.

In diabetes the treatment must be largely dietetic. The effect of drugs cannot be properly estimated unless tried in cases not influenced by diet. Saccharin is valuable in place of sugar, to secure a pleasant, sweet taste; it should be used carefully and not in excess. It cannot replace sugar as a source of nourishment. As a substitute for the carbo-hydrates, fat is most valuable. The diabetic patient must receive enough food to supply heat and to balance the amount of glucose lost in the urine. A gradual reduction of the carbo-hydrates is better than their sudden withdrawal. Watch the body weight, because it is better to maintain or secure an increase of weight with a moderate amount of sugar than to weaken the patient even though all sugar disappears. Care in diet is also necessary after the case has reached a satisfactory state.

Increase of oxidation in the system is also an essential. Arsenic is a valuable remedy, because it aids in oxidation. Massage is valuable for the same reason. Deep breathing practiced several times a day, and attention directed to acquiring it habitually, should not be overlooked. Fresh air and sunshine can do no harm.

Remedies adapted to the nervous symptoms are of great aid, because glycosuria can be influenced by attention in this direction. The levulose of fruits can be better utilized by the diabetic than the dextrose of other foods.

In albuminuric retinitis an improvement in the nephritis with reduction of the albumin is often followed by an improvement in the retinitis. In diabetes it is the reverse, the retinitis is rarely improved even though the case gets better, generally speaking.

We should impress the importance of treatment of these cases upon the physician who consults us about his patient with eye symptoms, and we should make these eye points well known to the general physician that he may be better enabled to prevent the eye lesions, or at least secure from his patient a more ready submission to the rules and regulations he lays down.

We have perhaps exhausted our time, and the remaining affections

are so rare and the modern views regarding general treatment so conflicting that we may be allowed to pass them at this time, with the hope that Dr. Wilson may favor us at some future time with one of his excellent dissertations upon these most interesting conditions.

R. S. Copeland: I live within fifty miles of Dr. Wilson, and know that he is not only an excellent operator but also a thoroughly scientific man. In talking with our president last night he remarked that he thought people past middle age ought to have an examination of the urine and also a general physical examination made about twice a year. People drift into Bright's disease and serious and incurable blindness who could be saved by an early discovery of the primary trouble. In my judgment, that is a very sensible piece of advice and creditable to Dr. Schenck.

HOMŒOPATHIC REMEDIES IN EYE, EAR. NOSE AND THROAT DISEASES.

DAVID A. STRICKLER, M. D.,

Denver, Colorado.

THIS is a rather long title for a short paper that mentions no remedies, but I trust the subject matter may be sufficiently definite to merit your time and favorable consideration.

As homœopathic physicians, we are familiar with the law of similars. We have faith in similia, and fully believe that properly applied it is the central truth of curative therapeutics. We have seen it verified with sufficient frequency to convince us that it is one of nature's laws, and as such will stand any test that science may legitimately require of it. I make this preliminary confession of faith in order that what I say later may not be construed as showing a lack of faith in the cardinal principle of homœopathy. My object is not to tear down, but to build up; not to take from, but to add to our present means in the application of this grand therapeutic truth.

It is not my purpose to go into the symptomatology of drugs, a long and tedious subject familiar to all of us, nor even to give anything new to members of this society, but rather to call attention to the meagreness of our materia medica for use in our specialty, and to urge a continued effort by this body toward perfecting and bringing our materia medica up to present day needs. This work which has its initiative in this society must not be allowed to go by default, but should be pushed with all the vigor we can command.

We meet as homœopathic specialists. We differ from our old school brethren alone in internal medication, and yet we use a materia medica the remedies of which were nearly all proven long before our present methods and instruments of precision were thought of. There should be some relationship between our methods of investigating disease on one hand, and of drug action on the other. Independent of the study of drug action we have no plausible excuse for existence as a separate body, *i. e.*, separate from old school ophthalmological and otological societies. I am pleased to note an effort this year toward having cases

of undoubted results from the homœopathic remedy reported to the society. It seems to me an excellent idea, and one which should be made a part of the regular routine of all our meetings. Its continuance will undoubtedly result in greater confidence in the homœopathic remedy, and. perchance, in more careful selections of our remedies, but meritorious as these reports may be, they should not interfere with our efforts at improving our materia medica.

I am fully aware that the homœopathic prescription is based upon the totality of symptoms and that for practical purposes the general physician can prescribe as well as we, perhaps better, but most of our cases come to us from homœopathic physicians, many of whom have prescribed for them before sending them to us. We are selected because of our special knowledge. Too often this special knowledge is in relation to the disease and not to its homœopathic treatment. Our special symptomatology is often too indefinite to apply with any assurance of success, and our failures too frequent to encourage us in continued effort, hence our increased reliance on local and other measures to the exclusion of internal medication. I believe this lack of success with its consequent lack of faith due largely to an imperfect materia medica.

If right in this conclusion it would seem self-evident that we owe it to the profession of which we are a part to insist on an improved materia medica, which can be had only through reproving of our drugs by some definite plan, which includes the use of modern appliances, methods and instruments, as applied to the various specialties, ours included.

This work can not be done by any body of specialists, but should be done through the American Institute, the various special bodies of our school consurring and assisting. We can. as a society and as individual members of the A. I. H., do much toward pushing the matter to a successful issue. I trust we may not lose an opportunity in either capacity to do our full duty.

705 14th Street.

DISCUSSION.

W. A. Phillips: The systematic proving of a drug is, to the homœopathic physician at least, the only rational method, primarily, of ascertaining the action of that drug upon the human economy; for a proving skilfully conducted will show approximately the physiological and occasionally also the pathological changes which it is capable of producing. Here is the nut of the matter, but the nut must grow into a tree and pro-

duce fruit before it can be considered much of a nut, and the proving must be sagaciously conducted and supplemented by keen clinical observation before it can come to its best estate. In the proving itself there are physiological disturbances all the way from the most insignificant and uncertain to those indicating definite pathological changes. Clearly here is a broad field for study, for it is by inference only in the great majority of cases that we can conclude that certain distinctive pathological changes would probably occur provided the exhibition of the drug were long continued. There is the personal equation, too, that must be taken into account, for all persons are not equally affected by the same drug under the same circumstances. Here is the open door for the testimony of clinical observation, and unless this supplements the proving the range of the drug's action can not be fully ascertained.

As an aid to clinical study the improved appliances for conducting investigations and the increased amount of knowledge of disease conditions since most of the provings were made are together of incalculable value. Still it will doubtless forever remain impossible to arrive at anything like a mathematical certainty so far as the use of medicine is concerned; for it is doubtless true that drugs, however long-continued as a proving, would not produce all the pathological changes which the same drugs attenuated would help to prevent during the early physiological disturbances. Neither is it probable to be able to attain to so perfect a knowledge of physiological and pathological changes, and to the exact power of drugs that the latter may be so administered that the former can be fully mastered; but it does seem conclusive that the proving of drugs and their administration according to the law of similars is the nearest approach to a rational system of medicine that has yet appeared in the history of curative measures. What the influence of recent discoveries is to be respecting the causes of disease and the employment of antitoxins, is a question for the future to answer; but from the present standpoint of therapeutics there is good reason why every homœopathist should stand by his colors. It is time enough to desert them when better are surely found .

The point, however, to be especially emphasized is this: In order to get the most reliable information concerning the curative action of drugs, in addition to provings, we must be equally observant of clinical study.

The right key is struck along this line in the symposium to be exhibited in this society during the present meeting. The writer is confident that if this promising feature of our proceedings is carried out judiciously and persistently, more valuable points will be gained than by even a carefully conducted reproving. But let us have both.

John B. Garrison: It seems to me that the first thing to bo done in attempting to make cures with our homœopathic remedies is to keep on studying the materia medica that we have. We should reprove our drugs, and we will reprove our drugs undoubtedly, but the means is at hand, and I can say, personally, the more I do study my materia medica

the better I am able to arrive at cures that seem obscure and are obscure than at first sight seemed possible. We must study all the time, and so become better prescribers; in not merely looking only for symptoms which we are attempting to cure, we frequently find something far away.

H. C. Allen: I want first to congratulate the author of that paper; it is very well written. Our materia medica is all right, if we only use it right. New provings will be wonderfully helpful if to the symptomatology can be aded the methods of precision that you now have in mechanics; wonderfully helpful; but our materia medica is not built the way the writer proposes. Homœopathy is not built that way. The symptomatology of the materia medica runs on individual lines and not on the lines of pathological conditions. We never can have a proving of remedies, either the old or new, that develops special diseases of the eye, ear, nose or throat. It cannot be done. We must take the totality of the symptoms of the individual patient. As specialists, we are all prone to prescribe a remedy for the diseased condition; this is just as true in gynæcology and surgery. Hahnemann struck the key when he told us that it is the unusual, the peculiar, the uncommon symptoms of the drug that map out the characteristics, that individualize the patient. That case of epilepsy reported by Dr. Hooker would be wonderfully helped by one of our remedies that has similar symptoms. That symptom was never found by proving upon the healthy, but it has been gained, as suggested by Dr. Moffat, by clinical observation. Dr. Hooker's patient will have another attack of epilepsy or something worse; he will die bye and bye; he has not been cured, because (Hahnemann says) these conditions can never be cured by external means, they must be cured from within. That was cured from without in. Treat the patient during the winter for hay fever. As Oliver Wendell Holmes says: "Treat the patient one hundred years before the patient is born." Begin with the mother; treat her during pregnancy; treat the child in the plastic condition of life, during uterine gestation.

E. J. Bissell: I understand Dr. Allen to claim that the removal of the spur and the relief of the epilepsy does not cure the case. Wherein does that case differ, then, if that is cured from without, from a case of abnormal corneal curvature for which we prescribe glasses and relieve, I may say cure, a great many cases of nervous manifestations. Wherein are the two different?

George W. McDowell: A patient consulted me several years ago with a history something like this: On retiring at night she had a sense of vertigo which passed off in a short time; on arising in the morning the vertigo returned, also to disappear in a comparatively short time. I had treated this patient for a number of years, and I said to her: "I think you have something in your ear." She laughed. I said, "Let me look at your ear." I looked in her ears and found in one ear a mass of movable wax. As she lay down this wax pressed against the drum-head and excited the reflex symptoms of vertigo; when she arose from bed

she had a recurrence of the same. Removal of the wax entirely removed her symptoms. I would consider that a cured case. I do not know how long Dr. Allen would expect us to wait for the recurrence of the symptoms in a case such as Dr. Hooker has described as cured when seven years have elapsed since the original operation. If we are to wait until the man is dead it may be a long while. I would like to know what Dr. Allen considers the limit.

Dr. Allen: If you ask me the question direct, I should say three months. "Remove the exciting cause," Hahnemann says all the way through. That ear wax was the exciting cause; but I doubt whether that spur was.

The Chairman: The result seemed to prove it; why do you doubt it?

Dr. Allen: Because it is the removal of a growth that was caused by some internal derangement of the vitality of the patient.

The Chairman: But often those deformities are started by some blow during babyhood.

Dr. Allen: And often they are not.

The Chairman: Admitted, sir. Many a little bump in childhood results in a deformity that is not known until after life.

Dr. Allen: That is good. The ear wax case was a case in kind. Hahnemann says the first thing to do is to remove the cause; that is what we are to ascertain. The case mentioned by Dr. Bissell is a case in point; if that patient had been treated in early life that eye trouble would not have occurred. Dr. Moffat is correct; let us criticise ourselves, that is what we are here for.

The Chairman: That is right.

Dr. Allen: And we will do it.

Dr. Bissell: Dr. Allen misunderstands me. I mean the common condition that we commonly speak of as astigmia. Thousands of cases when corrected by glasses obtain relief, and I may say are cured of the nervous manifestations which so often attend astigmia.

Thomas M. Stewart: I have a thought or two on this subject, because it is of vital interest to me. Anything which touches our materia medica, I think, is of the greatest importance. I do not agree, if Dr. Allen will permit me to disagree with him, to the statement that the materia medica is all right. If it was all right there would not be any discussion relative to reprovings. There will be some matters presented to the American Institute of Homœopahy of interest to all of us with relation to going on with the provings in a far different way from heretofore: An Institute of Proving, with an endowment fund sufficient to carry on the work, and show that our remedies can cure this, that or the other pathological condition.

One more word in conclusion. What are we to do when cases come to us from the hands of general practitioners who are recognized as very careful and capable prescribers? We operate upon the objective cause and cure the case, after the most careful homœopathic prescribing has failed. Some of the members perhaps may not think as much of the

remedy as I do. I have gone carefully after it until I have obtained picture after picture, but then have had to do the other thing to cure my patient.

Dr. Allen: The Doctor asked the question, What to do with cases coming from the general practitioner? I send cases to homœopathic specialists, and I need their help; but, as a rule, our homœopathic practitioners all over the country do not distinguish between diagnostic symptoms and therapeutic symptoms. The majority of us prescribe from diagnostic symptoms; but the more valuable a symptom is for diagnosis the more worthless it is for therapeutics. When we get down to basic principles and have our provings remade it will come back to the same old logical base Hahnemann gave us in the first place. We must make our therapeutic prescription from a therapeutic basis and not from the diagnostic standpoint.

David A. Strickler: In presenting this paper my thought was that the American Institute would probably have occasion to act upon the establishment of an institute for drug proving, and I wanted a discussion by this society in order that we may go there with a determination to help it along. I agree with much that Dr. Allen says, that our materia medica is good. I do not want to lose one thought in it that is good, but I want to add to it, and I think we can add very much to it from our standpoint, and from the standpoint of other specialists.

ATROPHY OF THE OPTIC NERVE, CHOKED DISC; TWO CASES.

JAS. A. CAMPBELL, M. D.,

St. Louis, Mo.

WHEN we recall the voluminous literature and the searching character of the investigations concerning the nature, cause, course and results of atrophy of the optic nerve and choked disc, it must be admitted that attempts to offer anything new or important in reference to these aspects of the subjects would indeed be difficult. And likewise the pathology of these nerve complications is as well understood, with a few exceptions, as we can well hope for. For these reasons it is a question whether discussions in this direction are profitable, or, under the circumstances, justifiable here.

To me it seems rather more desirable to consider some of the methods of treatment which have been of service in actual practice than to theorize or offer unsupported contentions for or against the prevailing views now very generally accepted.

Both atrophy of the optic nerve and choked disc are, as a rule, but the local manifestations of remoter causes, hence when considering any treatment the important question is: What is the cause and where is it located?

Atrophy of the optic nerve may result from causes varied and distinctly different. In the majority of cases it is a progressive result of some form of optic neuritis, which is generally a sequel to varied deeper-seated conditions. This proposition will surely be accepted without much argument.

That there are still some unexplained points connected with the subject must also be admitted; as, for instance, optic neuritis with subsequent atrophy may take place associated with cerebral disease, with apparently normal nerve tissue lying between the atrophied optic nerve and the central disease.

Then, again, high grades of optic neuritis, as well as choked disc, blurred papilla, turgid, tortuous retinal veins may exist and still fairly

good vision be present; though we must remember that according to Krause, there are 400,000 fibres in the unsheathed optic nerve to transmit retinal impressions; therefore, in both optic neuritis and choked disc, it is quite possible for an unrecognized part of these fibres to still remains capable of transmitting visual impressions to the brain, which would explain this seeming anomaly.

Choked disc, in many respects, is not necessarily an inflammation of the optic nerve, as it may appear before or after a nerve inflammation. It is generally conceded to be the result of a lymph stasis between the nerve fiber and its sheath, most frequently associated with some form of brain pressure, as in cerebral tumors of all forms. Though it does not seem that the size or location of the tumor determines its appearance, for it has occurred associated with very small tumors, and, again, large tumors of the brain have been present for many months without causing it.

It would, I am sure, insult your intelligence and offend your patience to rehearse here the long array of facts and fancies connected with these subjects, which may be found and you have read in various classic text-books and other accessible literature, hence with the above introduction I wish to present briefly two cases, one of atrophy of the optic nerve, the other of choked disc; both of which made fair recovery. I am free to confess, however, that the results were exceptional rather than usual with me, and to say that in my opinion absolute atrophy of the optic nerve is and always will be incurable.

CASE I.—ATROPHY OF OPTIC NERVE.

In April, 1901, Jno. C. K., age 31, came to me with the statement that his vision had been failing for over a year, and, although under the treatment of an oculist of excellent repute, he had gradually grown worse and worse. He had been under the usual iodide of potash and strychnia treatment. Had suffered no pain. He denied any specific history, but had formerly used much tobacco and drank to excess, and had taken the "Keeley Cure" a year before, with perfect success, and he neither drank nor smoked since.

Examination of his eyes showed R. V. $= {}^{15}/_{200}$ and L. V. $= {}^{15}/_{40}$. Pupils reacted to light, both direct and consensual. His field was contracted, and the color sense affected. Tension normal. Ophthalmoscope; in right eye a dull reddish-gray optic disc with confused outlines; arteries few and small. Pressure on eyeball did not increase the turgescence. The diagnosis for this eye was progressive atrophy of the optic nerve.

The left eye showed a clear case of optic neuritis, with red blurry disc, tortuous veins and diminished arteries.

He was placed under strych. phos. 6x, and galvanic electricity, one pole on eyes the other on neck, was used three times a week. This was continued regularly for five months with not much effect on right eye, but the vision of the left eye slowly improved up to $^{15}/_{20}$.

Becoming dissatisfied with this slow process, the patient quit treatment, and I saw nothing of him for a year. He then returned with the statement that he had been the rounds, first to one and then to another, and was in every way worse. Vision now was $^{15}/_{200}$ in right eye and $^{15}/_{70}$ in the left.

I told him that while my former treatment had helped his left eye the year before, in his present condition I could not hold out much promise for improvement, but that I would be pleased to try the effects of the oscillatory massage (Wappler) in the case, as I had for some months been using it with benefit in a certain line of cases. He readily consented, and I gave him regular treatments, three times a week, and nothing else.

This treatment was kept up with diminishing frequency until October, 1903, when his vision was $^{15}/_{40}$ in right eye and $^{15}/_{15}$ in the left eye with ability to read Jaeger 1 slowly.

CASE II.—CHOKED DISC.

Miss Mary O. K., age 58, came under my care a few years ago with the statement that about a year before that time her vision became affected after much use of the eyes in sewing. On awakening one morning she found the sight of the left eye nearly gone, and of the right much affected. She had immediately placed herself under a competent oculist, and had been under constant treatment all the time, but had gradually grown blinder, so much so that she could hardly make out a strong light with the left eye, and could see so little with the right eye that she had to be led to my office. Her general health was excellent and her past history was clean.

Examination, R. V. = $^{15}/_{200}$. L. V. = faint perception of light. Tension normal in both eyes. Ophthalmoscope showed clear media in right eye, but a marked case of choked disc; the swelling of the nerve head made it stand out about five diopters, as nearly as I could measure it with the ophthalmoscope.

In the left eye the fundus was also clearly seen, but the optic disc was a whitish gray, arteries few and small. Field contracted and color sense almost lost. In short, choked disc in right eye, atrophy of optic nerve in the left eye.

She was placed under aurum mur. 6x, three times daily, and galvanism applied, as in the other case, three times a week.

In six weeks her R. V. = $^{15}/_{30}$, L. V. = $^{15}/_{200}$ with a + 3. S glass. A month later it was $^{15}/_{20}$ in the right eye, and $^{15}/_{200}$ in the left; in another month $^{15}/_{15}$ with + 3. S, and $^{15}/_{200}$ in left eye; with + 5.50 S she could read J. 2. at 15 inches; the left vision remaining as in the beginning $^{15}/_{200}$. Expressing herself as being quite satisfied with the results obtained, she now quit treatment.

Eight months later she returned, stating that a severe attack of the grip with much suffering in the head and eyes for two months had made her eyes worse. Vision now was $^{15}/_{30}$ in the right, and only light perception in the left eye. Ophthalmoscopic examination showed a similar fundus picture as was revealed in the beginning, but to a lesser degree.

The same line of treatment was given followed by speedy improvement. One year afterwards tests showed R. V. $^{15}/_{200}$ and with + 5.50 S. J. 1 from 8" to 13". But the left eye could only recognize light and motion.

DISCUSSION.

President: Some of the members have stated that they have had some experience with the use of massage in this trouble. I would like to have Dr. Bissell give us his experience in this line.

E. J. Bissell: I rather hesitate to give what is imperfectly formulated in my own mind. I believe, however, that we have in certain electrical modalities, massage and vibratory stimulation, aids in the treatment of cases which formerly were considered incurable, such as optic atrophy and non-inflammatory glaucoma. I must confess that I have seen no more startling results in my practice than those effected by these mechanical and electrical methods of treatment.

Some of the remarkable results have been secured by the suction and release treatment on the Wappler instrument. I have watched them quite carefully; every man questions his own diagnosis when such cases improve. A case of non-inflammatory glaucoma I will relate. There was mere perception of light in the right eye, and vision of the other eye was not better than $^{22}/_{100}$. The patient was a Canadian, and had been seen by the best oculist in Toronto. The verdict was that nothing could be done for the right eye, and it was very questionable whether anything could be done for the other, the one that had $^{22}/_{100}$ths vision. The case came to me and I used the suction and release treatment. The right cornea, which was quite hazy, became clear, lost all the pronounced ground glass appearance, and there was improvement of the vision of the other eye. Thus encouraged, I followed it up until he could discern people with the right eye alone, and with the other eye he could see to read. The only treatment was the suction and release treatment on the Wappler machine, supplemented with the high frequency current, but I believe that the Wappler machine did the work.

I treated the case for about a month. He has gone home to Canada, but I have late reports from him that the vision has remained good. No internal remedy was used. The tension in the right eye was a little more than + 2, and a little more than + 1 in the left. The tension was relieved in both eyes. Of course, I do not know what this case will present in five years from now, but it shows that some kind of help is possible through this method of treatment.

My next case was a lady who had practically gone blind. The oldest oculist in Rochester pronounced the case hopeless, and I thought that he was right, but as I had had some benefit in bad cases I thought that there was no harm in trying. It was simple non-inflammatory glaucoma, and, as we know, no operation has given brilliant results. To-day that lady can go anywhere alone, can read and sew. It was simply marvelous. The discs were white and the tension + 2 in the right eye. Her vision came up as the tension went down. It was the greatest surprise to me. The treatment was the same as in the other case. My custom is to treat each eye separately.

Another case was a bookkeeper. He had to use a large magnifying glass to do any work at all. He can now read $^{20}/_{30}$ths for distance, and Jaeger No. 2. It seems marvellous. During the treatment I sent him to a physician to be looked over. He found some cystitis and a mild kidney involvement. The eye had all the appearance of simple atrophy of the nerve. Of course, there must have been some life there, enough to be helped. Formerly we would have thrown up our hands and declared that nothing could be done.

In all these cases the appearance of the disc improved and the circulation was better. I assume that the improvement took place by means of the circulation. I believe firmly that we have in massage, electricity and vibratory stimulation agents which will accomplish things that we have never been able to accomplish before.

In regard to whisky and tobacco cases, I have tried the same treatment with them with very favorable results. I have had no bad results from massage. I give the treatment very slowly and increase it a little towards the close. I am very careful in the use of the suction treatment to be gentle so as not to run any risk of retinal detachment or hæmorrhage. I have an attachment to my machine by which after the suction you get complete release. The original Wappler machine without the release attachment cannot give these treatments. They now furnish these attachments.

C. Gurnee Fellows: I have listened to this valuable paper and interesting discussion with a great deal of benefit and instruction. I have been experimenting as Dr. Bissell has with suction and release, and with suction without release, with galvanic and high frequency currents, and I have been perfectly astonished at the results. On one case that had multiple retinal hæmorrhage I used the suction massage, the high fre-

quency current and the negative current, alternating them during a week, two, three or four times. The hæmorrhages were absorbed and the usual atrophy has not taken place. The patient is making bed quilts, reads, sews and knits. I am much impressed with the value of the suction and release method in muscular troubles, and attribute the greatest benefit to that procedure, although I also use exercise and the high frequency current.

Improvement is certainly more rapid than when I used the prism exercise alone. Moreover, I have found that my patients have a preference for the high frequency current and seem to think well of it. Three or four cases of adhesion of the capsule have given more rapid absorption than I ever had before. Personally, I am exceedingly well satisfied with this addition to our therapeutic armamentarium, although I am not quite ready to report it as a panacea. I put the glass cup directly over the eye. I made a cup from the end of a stethescope that answered quite well. The end was covered with a rubber dam.

Dr. Bissell: What success have you had with otitis externa, are they particularly hard cases? There is a peculiar smelling discharge with blind furuncles and eczema or a kind of dermatitis.

Dr. Fellows: I have cured them with the high frequency current. I have a girl who had this trouble for some years. She got well marvellously. The boils stopped first. I have had excellent success with all these cases. Also in chronic suppuration after cleaning out the pus, the high frequency current has cleaned up some very obstinate cases of this kind. Also some cases of granulations of the tympanic cavity; after they get past the chromic acid stage. I use an ordinary electrode, and I have used a rectal electrode that answered just as well. I also use it with a nasal electrode for coryza and hay fever. In one such case incidentally an old asthma got well.

FIVE TRAUMATIC CATARACTS, THEIR COMPLICATIONS AND CONSEQUENCES.

FRANK B. SEITZ, M. D.,

Buffalo, N. Y.

TRAUMA is such a prolific cause of physical injury, appears in such a vast variety of ways as to time, place, source, force and location, assails nearly every structure of the body, and in its combatment arouses the best efforts of our knowledge of surgery, sepsis and antisepsis, pathology and repair, and has such baneful results on that most sensitive and most exposed organ, the eye, that this subject never fails to furnish material for a paper. The subject of traumatic cataract has not been discussed before this society for some time, whether because its principles are so well understood, or that each case is a law unto itself, or that it was not thought worthy of mention. Certainly not because nothing can be learned from this interesting and usually complicated kind of accident.

I will report a series of five cases chosen to show variety as to cause, course and results.

Case One. Mrs. F., age 33, related that about five years ago her husband mysteriously disappeared and no trace of him has since been found. Soon after this grief her left eye slowly became blind until now she can only perceive light. The right eye is perfect in all respects. She positively denies having received a blow, and cannot remember having had any inflammation such as one usually has with a penetrating wound in the eyeball. The iris was mobile, the pupil round, and there was not a sign of former injury except the somewhat shrunken lens. By the simple operation the lens was safely and easily delivered and recovery uneventful. With a + 5 s. ⊃ + 5 c. ax. 120° V. = $^{20}/_{40}$.

Case Two. Mr. J.. age 55, was struck in the right eye with the untwisted end of a wire cable. The lids were ecchymosed, the conjunctiva injected and the iris torn from its periphery, making a complete aniridia, the first one I had ever seen. The lens was completely luxated downward and backward into the viterous. To add to this deplorable condition the other eye, which, by the way, was divergent and depressed, had a traumatic cataract that had been there since boyhood; in other words, his only good eye was now irreparably damaged.

A severe inflammation ensued, which resulted in the vitreous becoming full or floating debris, and vision gradually reduced to P. L. On account of the inflammation, the loss of iris and the complication it was now thought advisable to extract the lens; though we could not have had worse results, and possibly better, if the lens had been removed. A forlorn effort was made to improve vision by removing the cataract that for years had been in his left eye. The results, however, were anything but brilliant. The case is reported on account of the severity of the injury, the unfortunate complications, and to show how often trauma strikes in a place where it will do the most harm.

Case Three. Mr. K., age 28, reported on January 3, 1903, that while working at an emory wheel yesterday, a spark flew into his eye. Through a pupil dilated by atropin the striæ were already visible in the lens, showing that it had been penetrated. The cornea was incised in its outer middle quadrant and the iris was torn just outside of its pupillary margin. At the Charity Eye and Ear Hospital, assisted by Dr. Hubbel, the Haab magnet was applied, yielding a so-called "pull," but no metal. The case went through a severe form of iridocyclitis with hypopion; this finally subsided, but left adhesions that precluded the possibility of advantageously delivering the lens.

Case Four. Andrew W., age 31, referred by Dr. Bodenbender, called November 13, 1903, saying, "Yesterday, while hammering, a piece of steel flew into my eye." There was a slight horizontal wound with coapted edges in the lower outer quadrant of the cornea, one-half inside, one-half outside of the pupillary margin. Fortunately, the iris was not wounded. The lens was already dull and grey, especially in one particular spot, which no doubt was the foreign substance. The accident was quite unfortunate, as the man had just risen from a four weeks' siege of articular rheumatism, a condition that boded ill for repair.

Under treatment the inflammation was kept in check, though, of course, the lens became totally opaque. On November 18, 1903, I removed the lens in soft masses by the simple operation. The case went on to uninterrupted, though protracted, recovery, and with such favorable results that on February 3, 1904, he was fitted with a + 12 D. s. with which he could see $^{20}/_{20}$, or perfect vision. There was not a trace of astigmia, either by Javal or retinoscopy. A peculiarity of this case was the non-anæsthetic but exceedingly toxic effect of cocain. He suffered severe pain during the corneal cut, and the needling had to be postponed three times. When a stronger than 2 per cent. solution was used he became prostrated, without however, losing keen sensibility of the cornea.

Case Five. Mrs. B., age 30, reported on December 26, 1903, that her right eye had troubled her for four years; that it felt full and spots flickered before it when reading. A few weeks ago, while on the street, something flew into her right eye, causing pain for a few hours,

but there was no subsequent inflammation such as would follow an injury sufficiently severe to cause a traumatic cataract. I found a mobile iris with a round pupil, and a fuly formed ripe cataract with homogeneous surface—the so-called seitenshein or silky sheen of Fuchs—upon which the iris cast no shadow. There was no scar in either the cornea, iris, nor lens to mark the entrance of a foreign substance, and the sclera was clear and white in appearance. Here, again, as in case one, the history of trauma was decidedly negative, or, is it possible, both being married women, that they wished to shield the fact that there had been some active demonstration of conjugal infelicity.

On January 21, 1904, I performed a simple operation, removing a lens with a well formed nucleus. By the way, when attempting the corneal incision I inserted the knife upside down. However, I quickly bethought myself and followed the advice of Dr. Knapp, who says: "When you put the knife in wrong, pull it out and put it back right." The recovery was uninterrupted, except for a conjunctivitis, which was successfully combatted and with a + 10 D. s. V. = $^{20}/_{40}$; another case where there was no corneal astigmia after extraction.

Absence of astigmia is rather a fortunate circumstance than the result of skill. In two cases there was no trace of injury to the cornea; while in case four it has been incised by such a minute, evidently flat and sharp object, that the resultant wound was of a minimum degree. As the wound healed quickly and smoothly that offending piece must have been aseptic.

Heteroinfection seems not to be an important factor in trauma of the eye except in bruised wounds from some ragged or blunt substance, but in this particular subject the majority of objects that are projected with force sufficient to penetrate the rather tough cornea and rupture the capsule are pieces of metal broken off from some larger mass by the blow of a hammer or of a hammer on a chisel or the flake of an emery wheel. We know that the sudden impact of metal on metal generates heat sometimes sufficient to act as an actual cautery, thus ensuirng an aseptic wound. In fact, patients usually say "a spark flew into my eye." In only one case was there hypopion. Infection may come from subsequent handling by the patient or the so-called eye doctor found in nearly every large machine shop.

The Haab magnet is deserving all praise, and is useful especially in those cases where a foreign substance has entered the ciliary body, irritation of which means iridocyclitis, panophthalmitis and possibly sympathetic ophthalmia; but where a piece of metal is known to be in the lens the removal of that body in toto will, of course, remove the offending particle as well as a worse than useless lens.

The simple operation seems to be preferable; for, as the patients are usually young in adult years, the cosmetic effect has some weight. As the lens is soft there is not the risk of simple extraction of a hardened senile cataract.

Females seem, through their occupation, to be rather more exempt than males; and, as to sides and age, both eyes and all ages seem equally unfortunate as to their liability to this injury.

Cause of trauma is usually patent; but two of these cases have, so far as I could learn, no history nor visible trace of injury. Both cases one and five passed through periods of some great mental anguish. Case five was an abandoned woman cast off by her family. I now have a case of a man, age 35, whose right eye shows well-marked spiculae of a cortical cataract. He noticed, only recently, that his vision was becoming reduced; he has just passed through a time of great mental anguish and almost hopeless anxiety through the sudden and unaccountable disappearance of his aged and partially demented father during the past severe winter. After weeks of clueless search his father's dead and frozen body was found in the country, miles from home, to where he had wandered, starved and frozen. In conclusion, I will add another thought to this subject by propounding the question, "Is grief a factor in the cause of some so-called traumatic cataracts?"

33 N. Pearl St.

DISCUSSION.

Elmer J. Bissell: During the past few years I have been quite surprised at cataracts developing somewhat similar to what the Doctor reports in numbers 1 and 5 of his cases. I do not think that they are always traumatic. I believe we have to come back to the idea that some perverted condition of nutrition is the cause. On the other hand, I have seen cases where the evidence was positive that quite a slight blow of the hand on the eye has started a cataract.

While on my feet I wish to speak of a case under my observation during the past week. Six months ago a man, fifty years of age, was struck in the eye with a sharp tool, just simply rupturing the capsule. This past week he came in, having passed from my observation during the interval, with the view of starting a law suit against the company, and the whole center of the lens had entirely absorbed, so that there was an average sized pupil and clear edges through the lens. It was one of those rare instances in which a man fifty years of age will have complete absorption of the cataract.

John L. Moffat: I would suggest to Dr. Bissell he may be able to save

himself a little annoyance in that case. I have fortunately escaped the witness stand for a number of years past. I have always been able to tell each lawyer who wants to subpœna me that I might do him more harm than good.

Have any of the members present given iodide of potash for traumatic cataract? In one of my exchanges last year* three were reported of piercing wounds of the lens treated promptly with 10 grs. of pot. iod. every four hours. Instead of the cataract to be expected each got normal vision with but a hair line showing the track of the lenticular wound.

In regard to idiosyncrasy, had you used, Doctor, that same bottle of cocain on other patients and found it efficacious after that?

Dr. Seitz: I used it right along.

A. Fisher: I happened to meet with a case of eye disease which I think very peculiar and may possibly interest the Society, as it illustrate the law of *similia similibus curantur.* I saw the patient frequently, and the cataract was very visible to the naked eye; and what do you think was the cure? He got a blow again with a cricket ball, which ruptured the capsule and completely cured his cataract. A traumatic cataract cured by trauma.

J. Miller Hinson: The Doctor spoke of inserting the knife wrong. I notice that according to some authorities if this happens the proper thing to do is to turn the knife in the wound. I would like to know if anybody has had any experience with this method. It does not seem to me practical. Knapp in his chapter on Operation in Oliver and Norris's System, says: "It may happen that the operator *has introduced the knife with the back up instead of with the edge,* and becomes aware of the fact only when, in continuing the section, the knife does not cut. The mistake may be remedied, without interrupting the operation or injuring the eye, by simply turning the knife at an angle of one hundred and eighty degrees on its longitudinal axis and continuing the section as if the accident had not occurred. In about three thousand extractions this accident has happened to me four times; others have also mentioned it. There has never been any reaction seen from it."

The President: I think that is correct, Doctor; I have seen it done

Dr. Hinson: I understood one of my friends to say that he had done it successfully, but it seems to me preferable to withdraw and reinsert the knife.

The President: Is there any further discussion.

Dr. Seitz: I have nothing to add except that I have been wondering how dionin would act in absorbing cataract. I have used the iodide of potassium without results, but as dionin seems to have the properties of a lymphagogue and as the lens is nourished with lymph, an opaque lens might be cleared by the use of dionin.

---

*Geo. A. Fleming, *Maryland Med. Journ.*, April, 1903.

OFFICERS 1878-1905 .

YEAR.	PRESIDENTS.	1ST VICE-PRESIDENTS.	2D VICE-PRESIDENTS.	SECRETARIES.	TREASURERS.	CENSORS.
1878	T. P. Wilson, Ann Arbor, Mich.	W. H. Woodyatt, Chicago, Ill.		Alfred K. Hills, New York, N. Y.	Alfred K. Hills, New York, N. Y.	Henry C. Houghton, New York, N. Y. James A. Campbell, St. Louis, Mo. W. A. Phillips, Cleveland, O.
1879	George S. Norton, New York, N. Y.	W. A. Phillips, Cleveland, O.		F. Park Lewis, Buffalo, N. Y.	F. Park Lewis, Buffalo, N. Y.	W. H. Woodyatt, Chicago, Ill. Frank H. Boynton, New York, N. Y. D. J. McGuire, Detroit, Mich.
1880	W. H. Woodyatt, Chicago, Ill.	Henry C. Houghton, New York, N. Y.		F. Park Lewis, Buffalo, N. Y.	F. Park Lewis, Buffalo, N. Y.	George S. Norton, New York, N. Y. J. H. Buffum, Chicago, Ill. W. A. Phillips, Cleveland, O.
1881	W. A. Phillips, Cleveland, O.	D. J. McGuire, Detroit, Mich.		F. Park Lewis, Buffalo, N. Y.	F. Park Lewis, Buffalo, N. Y.	J. H. Buffum, Chicago, Ill. George S. Norton, New York, N. Y. J. F. Beaumont, Freeport, Ill.
1882	Henry C. Houghton, New York, N. Y.	C. Th. Liebold, New York, N. Y.		F. Park Lewis, Buffalo, N. Y.	F. Park Lewis, Buffalo, N. Y.	J. H. Buffum, Chicago, Ill. Charles Deady, New York, N. Y. W. H. Winslow, Pittsburg, Pa.
1883	C. H. Vilas, Chicago, Ill.	W. H. Winslow, Pittsburg, Pa.		F. Park Lewis, Buffalo, N. Y.	F. Park Lewis, Buffalo, N. Y.	T. P. Wilson, Ann Arbor, Mich. M. O. Terry, Utica, N. Y. James A. Campbell, St. Louis, Mo.
1884	F. Park Lewis, Buffalo, N. Y.	James A. Campbell, St. Louis, Mo.		Charles Deady, New York, N. Y.	Charles Deady, New York, N. Y.	D. J. McGuire, Detroit, Mich. W. P. Fowler, Rochester, N. Y. Henry C. Houghton, New York, N. Y.
1885	D. J. McGuire, Detroit, Mich.	C. W. Butler, Montclair, N. J.		Alfred Wanstall, Baltimore, Md.	George S. Norton, New York, N. Y.	W. H. Winslow, Pittsburg, Pa. H. C. Houghton, New York, N. Y. T. P. Wilson, Ann Arbor, Mich.
1886	D. J. McGuire, Detroit, Mich.	C. W. Butler, Montclair, N. J.		Alfred Wanstall, Baltimore, Md.	George S. Norton, New York, N Y.	W. H. Winslow, Pittsburg, Pa. H. C. Houghton, New York, N. Y. T. P. Wilson, Ann Arbor, Mich.
1897	A. B. Norton, New York, N. Y.	Wm. R. King, Washington, D. C.		Elmer J. Bissell, Rochester, N. Y.	Harold Wilson, Detroit, Mich.	W. A. Dunn, W. A. Phillips, F. Park Lewis.
1898	William R. King, Washington, D. C.	Thomas L. Shearer, Baltimore, Md.	Howard P. Bellows, Boston, Mass.	Charles H. Helfrich, New York, N. Y.	Chas. H. Helfrich, New York, N. Y.	E. W. Beebe, A. B. Norton. B. J. Bissell, G. H. Quay. R. S. Copeland,
1899	Elmer J. Bissell, Rochester, N. Y.	E. W. Beebe, Milwaukee, Wis.	C. Gurnee Fellows, Chicago, Ill.	Herbert D. Schenck, Brooklyn, N. Y.	Chas. H. Helfrich, New York, N. Y.	E. B. Hooker, T. M. Stewart, D. A. MacLachlan, I. C. Soule. George B. Rice,
1900	Howard P. Bellows, Boston, Mass.	C. Joseph Swan, Chicago, Ill.	Eugene L. Mann, St. Paul, Minn.	Herbert D. Schenck, Brooklyn, N. Y.	Chas. H. Helfrich, New York, N. Y.	J. H. Harvey, C. L. Rumsey, G. H. Quay, C. L. Smith. P. C. Moriarty,
1901	Thomas L. Shearer, Baltimore, Md.	Thomas M. Stewart, Cincinnati, O.	F. DeW. Bates, Hamilton, Ont.	Herbert D. Schenck, Brooklyn, N. Y.	C. Gurnee Fellows, Chicago, Ill.	W. M. Blair, J. M. Patterson, F. M. Gibson, Geo. A. Suffa. H. W. Hoyt,
1902	C. Gurnee Fellows, Chicago, Ill.	George B. Rice, Boston, Mass.	Charles L. Rumsey, Baltimore, Md.	Herbert D. Schenck, Brooklyn, N. Y.	Geo. W. McDowell, New York, N. Y.	J. N. Anderson, Ella G. Hunt, G. F. Bagby, W. B. Kreider. J. I. Dowling,
1903	George B. Rice, Boston, Mass.	Royal S. Copeland, Ann Arbor, Mich.	Wm. W. Blair, Pittsburg, Pa.	J. Ivimey Dowling, Albany, N. Y.	Geo. W. McDowell, New York, N. Y.	I. Townsend, H. S. Weaver, F. D. Lewis, D. A. Strickler. E. L. Mann,
1904	Herbert D. Schenck, Brooklyn, N. Y.	Edward B. Hooker, Hartford, Conn.	David A. Strickler, Denver, Col.	J. Ivimey Dowling, Albany, N. Y.	Geo. W. McDowell, New York, N. Y.	George A. Suffa, Geo. H. Rhoads. Joseph H. Ball, John M. Fawcett,
1905	Royal S. Copeland, Ann Arbor, Mich.	Herbert W. Hoyt, Rochester, N. Y.	John L. Moffat, Brooklyn, N. Y.	David W. Wells, Boston, Mass.	G. DeWayne Hallett, New York, N. Y.	J. A. Campbell, Geo. A. Shepard. J. J. Mowry, F. H. Sullivan, A. Worrall Palmer,

ACTIVE MEMBERS.

Ex.—exclusively.
E.—eye.
Ea.—ear.
N.—nose.
T.—throat.
G.—general practice.
x—no answer as to specialty.

E., Ea., N., T.	Allen, Paul,	3 E. 48th street, New York, N. Y.
	Ambler, J. Edgar,	New York, N. Y.
E., Ea., N., T.	Anderson Jeremiah N.,	5 College street, Toronto, Ont.
Ex. E., Ea.	Angell, Augustus,	904 Main street, Hartford, Conn.
Ea., N., T.	Austin, A. Eugene,	Hotel Oxford, 58 St. and Park Ave., New York, N. Y.
E., Ea., N., T.	Bagby, George Franklin,	206 E. Grace street, Richmond, Va.
E., Ea., N., T.	Baker, Leigh,	1100 Thirteenth St., N. W., Washington, D. C.
E., Ea., N., T.	Baldwin, Edward Hill,	77 Clinton avenue, Newark, N. J.
E., Ea., N., T.	Ball, Joseph H.,	301 Crapo Block, Bay City, Mich.
E., Ea., N., T.	Barbee, B. I.,	60 E. Broad street, Columbus, Ohio.
E., Ea., N., T.	Barndt, Milton A.,	307 Grand avenue, Milwaukee, Wis.
E., Ea., N., T.	Bates, Frank De W.,	34 James street, Hamilton, Ont.
E., Ea., N., T.	Bates, J. O.,	24 Lyman Block, Muskegon, Mich.
E., Ea., N., T.	Beebe, E. W.,	175 Wisconsin street, Milwaukee, Wis.
E., Ea., T.	Beggs, William Franklin,	17 Fulton St., Newark, N. J.
Ex. Ea.	Bellows, Howard P.,	220 Clarendon street, Boston, Mass.
E., Ea., N. T.	Bissell, Elmer Jefferson,	75 S. Fitzhugh st., Rochester, N. Y.
Ex. E.	Blair, William W.,	Diamond Nat. Bank Bldg., Pittsburg, Pa.
Ex. E.	Boice-Hays, Emma L.,	2236 Monroe street, Toledo, Ohio.
x	Boynton, Frank H.,	36 W. Fiftieth street, New York, N. Y.
E., Ea., N., T.	Brooks, E. D.,	28 Main street, Ann Arbor, Mich.
E.	Brown, C. Sheble,	3046 Frankford Ave., Philadelphia, Pa.
Ex. E.	Brown, Christian H.,	1022 Walnut street, Philadelphia, Pa.
Ex. E., Ea.	Buffum, J. H.,	905 Venetian Bldg., Chicago, Ill.
E., Ea., N., T.	Bywater, William L.,	8 N. Clinton street, Iowa City, Ia.
E., Ea., N., T.	Campbell, James A.,	Mermod-Jaccard Bldg., St. Louis, Mo.
E., Ea., N., T.	Church, Herbert A.,	601 Warren street, Syracuse, N. Y.
E., Ea., N., T.	Clark, Byron G.,	25 W. 74th street, New York, N. Y.
Ex. Ea.	Colburn, Frederick W.,	160 Newberry street, Boston, Mass.
Ex. E., Ea.	Comstock, Wm. C.,	16 W. Franklin street, Baltimore, Md.
x	Conklin, RaymondC.,	Batavia, N. Y.
Ex. E. Ea., N., T.	Cook, Wm. C.,	611 Penn avenue, Pittsburg, Pa.
Ex. E., Ea., N., T.	Copeland, Royal S.,	407 N. Ingalls st., Ann Arbor, Mich.
E., Ea., N., T.	Covert, N. B.,	415 Main street, Geneva, N. Y.
x	Croft, Willard B.,	Medina, Ohio.
Ex. E., Ea.	Cross, Albert Elmer,	58 Pleasant street, Worcester, Mass.
G.	Custis, J. B. Gregg,	912 15th st., N. W., Washington, D. C.
E., Ea., N., T.	Custis, Marvin A.,	634 E. Capitol street, Washington, D. C.
Ex. E., Ea., N.	Deady, Charles,	151 W. 73d street, New York, N. Y.
E., Ea., N., T.	Dean, Louis W.,	Gardner Bldg., Utica, N. Y.
E., Ea., N., T.	Deuel, W. Estus,	Chittenango, N. Y.
Ex. Ea.	Dickie, Perry,	17 Schermerhorn St., Brooklyn. N. Y.
x	Defriez, Wm. Peabody,	537 Wash. St., Brookline, Mass.

Ex. E. Ea., N., T.	Doane, W. H., Copelano Bldg., Court St. and Clinton Ave., So. Rochester, N. Y.
E., Ea., N., T.	Dowling, Joseph Ivimey,...223 State street, Albany, N. Y.
E., Ea., N., T.	Duffield, Alice V., ...100 State street, Chicago, Ill.
Ex. E., Ea., N., T.	Eaches, W. De Haven, 226 Morgan street, Phoenixville, Pa.
N. T.	Emery, Winfred Newell,....808 Main st., Waltham, Mass.
E., Ea., N., T.	Fawcett, John M.,..1307 Chaplain street, Wheeling, W. Va.
E., Ea., N., T.	Fellows, C. Gurnee, ...70 State street, Chicago, Ill.
E., Ea., N., T.	Foote, William Kellogg, ...43 Young Building, Joilet, Ill.
Ex. E., Ea.	Fuller, Charles Gordon,.....100 State St., Chicago, Ill.
Ea., N., T.	Garrison, John B.,.....115 E. 71st St., New York, N. Y.
Ex. E., Ea.	George, Edgar J.,...801 Marshall Field Bldg., Chicago, Ill.
E., Ea., N., T.	Gibson, F. M. ...608 Nicollet avenue, Minneapolis, Minn.
Ex. E., Ea., T.	Gilbert, Charles H.,.....331 Main street, Rushville, Ind.
E., Ea.	Hallett, George DeWayne, 128 W. 85th St., New York, N. Y.
N. T.	Hallock, J. Henry, ...Saranac Lake, N. Y.
x	Harrison, Herbert A. .....Cooperstown, N. Y.
E., Ea., N., T.	Hasbrouck, Sayer, ...105 Broad street, Providence, R. I.
E., Ea., N., T.	Haseltine, Burton D., ...100 State street, Chicago, Ill.
Ex. E., Ea.	Heath, Gertrude Emma, 235 Water street, Gardiner, Me.
Ex. E., Ea.	Helfrich, Charles H., Windsor Arcade, Fifth Ave. and 47th street, New York, N. Y.
x	Hill, Emily L., No. 177 West 73d St., New York, N. Y.
E., Ea., N., T.	Hills, Howard B.,..31 W. Wood street, Youngstown, Ohio.
E.	Hinson, J. Miller.....739 Boylestown St., Boston, Mass.
Ea., N., T.	Hooker, Edward Beecher, 721 Main street, Hartford, Conn.
Ex. E.	Horr, Albert W., ...14 Beacon street, Boston, Mass.
N. T.	Houghton, Neidhard H., 220 Clarendon St., Boston, Mass.
Ex. Ea., N., T.	Hoyt, Herbert W., 33 Clinton Ave., So. Rochester, N. Y.
E., Ea., N., T.	Hubbard, Charles H., ...425 Broad street, Chester, Pa.
x	Hughes, William Blakemore, ...Little Rock, Ark.
Ex. E., Ea., N., T.	Humphries, Edward, 153 W. 15th street, Philadelphia, Pa.
E., Ea., N., T.	Hunt, Ella G., .107 Odd Fellows Temple, Cincinnati, Ohio.
E., Ea., N., T.	Irving, Walter W.,.121 Wisconsin street, Milwaukee, Wis.
Ex. E.	Jessup, Halten I., ...1829 Arch street, Philadelphia, Pa.
x	Jewell, Henry J.,.....Masonic Temple, Nashua, N. H.
E., Ea., N., T.	Jewett, Joseph Waldo, 215 Crown street, New Haven, Conn.
E., Ea., N., T.	Johnson, Elmon R., ...389 Newport, Ave., Quincy, Mass.
E., Ea., N., T.	Keeler, E. Elmer, ...452 S. Salina street, Syracuse, N. Y.
E., Ea., N., T.	Kehr, Samuel S., ...K. H. and W. Block, Sterling, Ill.
Ex. E., Ea., N., T.	Kellogg, Francis B., ...Douglass Bldg., Los Angeles, Cal.
x	Kennedy, James D.,...3 Brook St., West Medford, Mass.
Ex. E. Ea., N., T.	Kerr, Harlan T., 515-516 Braly Bldg., Los Angeles, Cal.
Ea., N., T.	Kershaw, J. Martine, 3421 Washington ave., St. Louis, Mo.
G.	King, J. B. S., ...6713 Wentworth avenue, Chicago, Ill.
E., Ea., N., T.	King, William R., 1422 K street, N. W., Washington, D. C.
E., Ea.	Kreider, W. B.,.....203 E. Lincoln Ave., Goshen, Ind.
E., Ea., N.	Leavitt, Henry H., ...Pillsbury Bldg., Minneapolis, Minn.
E., Ea., N., T.	Lewis, Frederick D.,...188 Franklin street, Buffalo, N. Y.

E., Ea., N., T. Linnell, E. H., ...45 Broadway, Norwich, Conn.
E., Ea., N., T. Lloyd, Ralph Irving. .....450 9th street, Brooklyn, N. Y.
E., Ea., N., T. MacLachlan, Daniel A., 1301 Majestic Bldg., Detroit, Mich.
Ex. Ea., N., T. Mann, Eugene L., ...694 Endicott Arcade, St. Paul, Minn.
E., Ea., N., T. McDowell, George W., 542 Fifth avenue, New York, N. Y.
E., Ea. Moffat, John L., ...1136 Dean street, Brooklyn, N. Y.
E., Ea., N., T. Moriarty, Pierre Colon, ...Bee Building, Omaha, Neb.
Ex. Ea., N., T. Mueller, Gustave A., ...501 Empire Bldg., Pittsburg, Pa.
Ex. E., Ea. Munson, Edwin S., 695 Madison Ave., New York, N. Y.
Ex. E. Ea., N., T. Myers, Dean Wentworth,.....Grand Rapids, Mich.
Ea., N., T., G. McGibbon, W. P.,.....522 Jefferson Ave., Chicago, Ill.
N., T., G. McBean, George M., 711 Marshall Field Bldg., Chicago, Ill.
E., Ea., N., T. Nelles, A. B., ...198 E. State street, Columbus, Ohio.
x Newberry, Frank J.,..8 N. Clinton street, Iowa City, Iowa.
Ex. E. Norton, A. B., ...16 W. 45th street, New York, N. Y.
E., Ea., N., T. Paine, Howard S., ...148 Ridge street, Glens Falls, N. Y.
Ex. E., Ea., N., T. Palen, Gilbert J.,
53 W. Walnut Lane, Germantown, Philadelphia, Pa.
Ex. Ea., N., T. Palmer, A. Worrall,..210 W. 57th street, New York, N. Y.
Ex. E., Ea. Palmer, John B.,.....21E. 24th street, New York, N. Y.
x Palmer, Helen Cooley,..5 W. 82d street, New York, N. Y.
Ex. E., Ea. Parsons, Thomas, ..213 Alexander street, Rochester, N. Y.
E., Ea., N., T. Patterson, Jos. M., 306 Commerce Bldg., Kansas City, Mo.
Ex. E., Ea. Payne, John H., ..Pierce Bldg., Copley Sq., Boston, Mass.
Ex. N. T. Peasley, Emma J., ...153 Newberry, Boston, Mass.
G. Peck, George Batcheler, 865 N. Main st., Providence, R. I.
Ex. E. Ea., N., T. Peck, Grant S.,.....1427 Stout St., Denver, Col.
x Perkins, Archie E.,.....82 Day St., Fitchburg, Mass.
Ex. E., Ea., N., T. Peterson, A. C., ..Spring Valley Bldg., San Francisco, Cal.
Ex. E., Ea. Phillips, William A., ..89 Euclid avenue. Cleveland, Ohio.
Ex. E. Ea., N., T. Phillips, William H., 1018-1020 Rose Bldg., Cleveland, O.
E., Ea., N., T. Piatti, Virgil C., ...Greenwich, Conn.
Ex. E., Ea., N., T. Quay, G. H., ...
818 Rose Bldg., Erie & Prospect sts., Cleveland, O.
E., Ea., N., T. Reed, Robert G., ...Union Trust Bldg., Cincinnati, Ohio.
Ex. E., Ea. Rhoads, George, ...4 Chestnut street, Springfield, Mass.
Ex. N., T. Rice, George B., ...220 Clarendon street, Boston, Mass.
Ex. E. Ea., N., T. Rice, Philip,.....121 Geary St., San Francisco, Cal.
x Richardson, George H., ...Los Angeles, Cal.
Ex. E. Ea., N., T. Roe, Joseph F., ...25 Main street, Binghamton, N. Y.
Ex. E., Ea. Rumsey, Charles Leslie, ..812 Park avenue, Baltimore, Md.
Ex. Ea., N., T. Rust, Carl H., ...862 Rose Bldg., Cleveland, Ohio.
Ex. E., Ea. Rust, Edwin G., ...29 Euclid avenue, Cleveland, Ohio.
Ex. N., T. Sanders, Llewellyn J., 213 Alexander St., Rochester, N. Y.
E. Ea., N., T. Seitz, Frank B., ...33 N. Pearl St., Buffalo, N. Y.
Ex. Ea., N., T. Semones, William M., ...Atlantic, Iowa.
Ex. E., Ea. Schenck, Herbert Dana, 241 McDonough st., Brooklyn, N. Y.
Ex. E., Ea. Shaw, John Holbrook, ...43 Court St., Plymouth, Mass.

Ea., N., T.	Shearer, Thomas L.,.345 N. Charles street, Baltimore, **Md.**
E., Ea., N., T.	Sheldon, Floyd P., .223 W. 122d street, New York, **N. Y.**
Ex. E., Ea.	Shepard, Geo. A., The Glenmore, 7th ave. & 55th st., **N. Y.**
x	Sherman, Le Roy B.,.355 W. 14th street, New York, **N. Y.**
x	Short, Zuber N., ...428 Central avenue, Hot Springs, **Ark.**
E., Ea., N., T.	Smith, J. W., ...Main street, Vevay, **Ind.**
Ex. Ea., N., T.	Smith, Orrin Lelroy,....164 N. Upper St., Lexington, **Ky.**
Ex., E., Ea., N., T.	Soule, Isaac C., ...1103 Main street, Kansas City, **Mo.**
E., Ea., N., T.	Spencer, Wm., ...1820 Chestnut street, Philadelphia, **Pa.**
Ex. Ea., N., T.	Stearns, William M.,..Marshall Field Bldg., Chicago, **Ill.**
Ex. E., Ea., N., T.	Stephenson, Benjamin S., ...Hyannis, **Mass.**
Ex., E., Ea., N., T.	Stewart, Thomas, M.,..Traction Building, Cincinnati, **Ohio**
x	Stitzel, J. W.,.....89 Allegheny St., Holidaysburg, **Pa.**
Ex. E. Ea., N., T.	Storer, John,.....92 State St., Chicago, **Ill.**
Ex. Ea., T., G.	Straughn, Clinton C., ...Matawan, **N. J.**
Ex. E., Ea., N., T.	Strickler, David A., ...705 14th street, Denver, **Col.**
E., Ea., N., T.	Strong, Charles H., Suite 350 Spitzer Bldg., Toledo, **Ohio.**
Ex. Ea., N., T.	Strong, T. Morris,..176 Huntingdon avenue, Boston, **Mass.**
Ex. E.	Strong, Walter, ...2105 N. 13th street, Philadelphia, **Pa.**
Ex. E.	Suffa, George A., ...220 Clarendon street, Boston, **Mass.**
E., Ea., N., T.	Swan, C. Joseph, ...34 Washington street, Chicago, **Ill.**
Ex. Ea., N., T.	Teets, Charles E.,.....59 W. 37th St., New York, **N. Y.**
E., Ea., N., T.	Thomas, Charles M., ..1623 Arch street, Philadelphia, **Pa.**
Ea., N., T.	Townsend, Irving,.....62 W. 51st street, New York, **N. Y.**
Ex. E., Ea.	Van Mater, George G.,.354 Macon street, Brooklyn, **N. Y.**
x	Vilas, Charles H., 2811 Cottage Grove avenue, Chicago,, **Ill.**
E., Ea., N., T.	Ware, Horace B., ...Scranton, **Pa.**
Ex. E., Ea.	Warner, Alton G., 19 Schermerhorn st., Brooklyn, **N. Y.**
E., Ea., N., T.	Warner, Franklin P., 304 Main street, Canandaigua, **N. Y.**
E., Ea., N., T.	Weaver, Harry S.,.1621 Chestnut street, Philadelphia, **Pa.**
Ex. E.	Wells, David W., ..The Westminster, Copley Sq., **Boston.**
Ea., N., T.	Wells, George, S.,....1407 Chapline St., Wheeling, **W. Va.**
Ex. Ea., N., T.	Wilberton, Lawrence G., ...Model Block, Winona, **Minn.**
E., Ea., N., T.	Wilder, Guert E., ...415 College avenue, Sandusky, **Ohio.**
E., Ea., T.	Willard, Harry S.,.....44 Church St., Paterson, **N. J.**
E., Ea., N., T.	Wilson, Harold, ...32 Adams avenue, W. Detroit, **Mich.**
N. T.	Winchell, Walter B., ...137 Berkley Pl., Brooklyn, **N. Y.**
Ex. E. Ea., N., T.	Woodward, Erle B.,Richard Blk., 11th & O st., Lincoln, **Neb.**
E., Ea., N., T.	Woodward, H. Wells, 1110 L st., N. W., Washington, **D. C.**

HONORARY MEMBER.

Wilson, T. P., ...74 Forrest avenue, Detroit, **Mich.**

CORRESPONDING MEMBERS.

Parenteau, Daniel, ...73 Rue de Rocher, Paris, **France.**
Shaw, C. Knox, ..19 Upper Wimpole street, London, **Eng.**
Wright, Dudley, ...55 Queen Anne street, London, **Eng.**

CONSTITUTION.

ARTICLE I.—NAME AND OBJECT.

This association shall be styled the American Homœopathic Ophthalmological, Otological and Laryngological Society, and its object the study of the eye, ear, nose and throat, with particular reference to homœopathic therapeutics.

ARTICLE II.—MEMBERS.

The society shall be composed of those physicians who are already members, and of such others as may be hereafter chosen in conformity with the by-laws.

ARTICLE III.—QUORUM.

At any meeting of the society eleven members shall constitute a quorum.

ARTICLE IV.—OFFICERS.

The officers of the society shall be a president, two vice-presidents, a secretary, and a treasurer, who shall also constitute an executive committee of the society.

ARTICLE V.—AMENDMENTS.

This constitution may be altered or amended by a vote of two-thirds of all the members present at the regular annual meeting, provided that notices of such alteration or amendment shall have been given in writing at a previous annual meeting of the society.

BY-LAWS.

ARTICLE I.—MEETINGS.

This society shall hold at least one session in each year, at such time and place as may be determined upon.

ARTICLE II.—ELECTION OF OFFICERS.

SECTION 1. The officers shall be elected by ballot at each annual meeting of the society, and shall enter upon their respective duties immediately after the close of the annual session.

SEC. 2. The regularly chosen officers of this society shall constitute an executive committee, which shall arrange the business of the session, attend to matters of business not otherwise specially provided for, and perform such other duties as may, by vote of the society, devolve upon them.

ARTICLE III.—DUTIES OF OFFICERS.

SECTION 1. The president shall preside at the meeting of the society, and perform such duties as may, by vote of the society, be devolved upon him. He shall deliver an address at the opening of each annual session, upon such subject as he may select.

SEC. 2. The vice-presidents in their order shall perform the duties of the president in his absence or disability.

SEC. 3. The secretary shall keep a record of the proceedings of the meetings, conduct the correspondence of the society, issue notice of meetings, and notify members of their election.

SEC. 4. The treasurer shall receive all money belonging to the society, shall make all disbursements under the recommendation of the president, and shall furnish at each annual meeting a written report of the condition of the finances.

ARTICLE IV.—CENSORS.

There shall be a board of censors, consisting of five members, who shall receive and examine the credentials of candidates for membership, and report to the society for election such as may be found properly qualified. The members of said board shall be elected by ballot at each annual session to serve for one year from the first day of January next succeeding said election.

ARTICLE V.—MEMBERSHIP.

SECTION 1. Any regular qualified and reputable physician endorsed by two members, may be elected to membership in this society.

SEC. 2. The admission fee of each member of the society shall be two dollars.

SEC. 3. Members shall pay annually the sum of three dollars toward defraying the expenses of the society.

SEC. 4. The election of no member shall be considered completed until he shall have paid his admission fee and annual dues; and his membership can only be continued by the annual payment of these dues, and by becoming a member of the American Institute of Homœopathy before he has been a member of this society for three years. Until his dues are paid he may not participate in the active work of the society. He may at any time within three years, however, complete his membership by paying his dues for the current year, together with any back dues that may have accrued against him.

SEC. 5. Members neglecting the payment of dues for three years, after proper notification from the treasurer, shall have their names dropped from the roll of membership. Any person thus dropped shall have the prvilege of reinstatement by paying all arrearages, on recommendation of the board of censors.

SEC. 6. Any physician of eminent attainments in the special fields of medicine with which this society is concerned, may be elected an Honorary Member on recommendation of the board of censors at any annual meeting of the society, and shall be exempt from dues and shall have all the privileges of members, except voting and eligibility to office.

SEC. 7. Any foreign physician may be elected a Corresponding Member of the society at any annual meeting, on recommendation of the board of censors, and shall have all the privilges of members, except voting and eligibility to office.

ARTICLE VI.—RULES OF ORDER.

SECTION 1. The rules governing the deliberations of this society shall be those found in Roberts' Rules of Order.

SEC. 2. No report or paper shall be received by the society in an incomplete or unfinished condition, and the title of any proposed paper shall be forwarded to the president by April 1st of each year and the completed paper by May 1st.

SEC. 3. The time allowed for the presentation of any paper shall be twenty minutes. The leading discussion shall not exceed ten minutes, and all other discussion five minutes for each speaker.

ARTICLE VII.

These by-laws may be altered or amended by a vote of two-thirds of the members present at the annual meeting.

STANDING RESOLUTIONS.

Adopted June 19, 1899:

"*Resolved*, That the Committee on the Nomination of Officers shall consist of all the ex-presidents of the society present at any meeting, provided that in any case less than three be present the president shall appoint from the members present a number sufficient to make the committee consist of three members."

Amended, June 20, 1904.

"*Resolved*, This Committee shall receive from the members of this Society nominations for the various offices, which nominations shall be endorsed in writing by five members of the Society in good standing. All nominations shall be made on the first day of the annual meeting. In case of failure of the committee to receive nominations for any office it shall supply the deficiency, and that the election take place in the usual way."

Adopted June 16, 1900:

"*Resolved*, That all papers presented before this society shall become its property and be *first* published in its official organ; and, furthermore, be it

"*Resolved*, That the Homœopathic Eye, Ear and Throat Journal be continued as the official organ of the society."

Adopted June 19, 1900:

"*Resolved*, That the president be requested to appoint at each annual meeting a committee of three members on transportation, who shall act, as far as possible, conjointly with the same committee of the Institute."

CONTENTS.

PAGE.

Address. President H. P. Schenck 31
A Demonstration of the Use of Tuning Forks in Aural Diagnosis. By H. P. Bellows 205
Adenoids. J. M. Ball 279
A Few Cases From My Record Books apparently Cured by the Single Indicated Homœopathic Remedy 192
Agaricus in a Sense of Fullness as if a Lump Were in the Throat. T. M. Stewart 161
Albuminuric, Diabetic, Leukæmic and Anæmic Retinitis. H. Wilson 290
Allen, H. C. Discussion—Homœopathic Remedies 302
" Value of Training Fusion Faculty 97
Anderson, J. M. Discussion—Lingual Tonsil 276
" Nasal Reflex 263
" Treatment of Atrophic Rhinitis 128
" Use of Adrenalin Chloride in the Eye 267
Anisometropia. E. H. Linnell 150
Atrophy of the Optic Nerve, Chocked Disc; Two Cases. J. A. Campbell .. 305
Ball, J. M. Discussion—Secondary Hæmorrhage 285
" The Massacon 138
Adenoids 279
Beebe, E. W. Discussion—Non-Operative Treatment of Mastoiditis 148
" External Rectus Muscle 241
" Secondary Hæmorrhage 288
" Use of Adrenalin Chloride in the Eye 268
Nasal Reflexes 253
Spigelia in Neuralgia 187
Beggs, Wm. F. Discussion—Paralysis of the Sixth Nerve 245
" Use of Adrenalin Chloride in the Eye 268
Bellows, H. P. Discussion—Magnesia Phosphorica in Mastoid Neuralgia. 177
" Nasal Reflexes 261
" Non-Operative Treatment of Mastoiditis..... 143
A Demonstration of the Use of Tuning Forks for Aural Diagnosis 205
Bissell, E. J. Discussion—Agaricus 162
" Atrophy of Optic Nerve 308
" External Rectus Muscles 240
" Homœopathic Remedies 302

PAGE.

" Immature Cataract 80
" Traumatic Cataracts 314
Bromium in Ptosis 162
Bleyer, J. M. Electro-Vibration of the Turbinated Tissue 101
Bromium in Ptosis. E. J. Bissell 162
Brooks, E. D. Discussion—Anisometropia 153
" Experience With Electro-Therapy 56
" External Rectus Muscles 241
" Lingual Tonsil 276
" Non-Operative Treatment of Mastoiditis 147
" Paralysis of the Sixth Nerve 244
" Symptomatic Hæmorrhage 222
" The Massacon 135
" Treatment of Atrophic Rhinitis 126
" Use of Adrenalin Chloride in the Eye 269
Graphites in Adenoids, Enlarged Tonsils, Blepharitis, Marginal and Post-Aural Eczema 171
Brooks, E. D. Some Causes of Astigmia and Their Treatment 196
Brown, C. H. Paralysis of Sixth Nerve 243
Bryonia in Acute Influenza. J. B. Garrison 163
Business Transactions 9-30
Calcarea Carbonica in Eustachian Catarrh. G. W. McDowell 163
Campbell, J. A. Atrophy of Optic Nerve, Choked Disc; Two Cases 305
Capsicum in Acute Mastoiditis. A. G. Warner 164
Chrysophanic Acid in Eczema of Auricle. H. S. Willard 165
Clark, B. G. Discussion—Paralysis of Sixth Nerve 244
Clinic—Niagara Falls Hospital 234
Colburn, F. W. Non-Operative Treatment of Mastoiditis 140
Cole-Hills. Discussion on Electro-Therapy 57
Committees, Appointment of 9
Committee on Drug Proving, Report of .....
on President's Address 31
on Affiliation With A. I. H.
Majority Report 16
Minority Report 17
Constitution and By-Laws 321
Copeland, R. S. Discussion—Diagnostic Value of Color Field 119
" Paralysis of the Sixth Nerve 245
" Retinitis 298
" Value of Training the Fusion Faculty 97
Demonstration of Operation for Senile Cataract. A. B. Norton 235
Diagnostic Value of Color Field. G. A. Shepard 114
Dowling, J. I. Discussion—Anisometropia 153
" Lingual Tonsil 277
" Nasal Reflexes 262
" Treatment of Atrophic Rhinitis 128

PAGE.
Duffield, A. V. Use of Adrenalin Chloride in the Eye 265
Dwight, D. Symptomatic Hæmorrhage From Mucous Membrane of Upper Respiratory Tract 218
Echinacea in Furuncles. T. L. Shearer 166
Election of Members 26
Officers 27
Electro-Vibration of the Turbinated Tissue. J. M. Bleyer 101
Fellows, C. G. Discussion—Atrophy of Optic Nerve 310
" Echinacea in Furuncles 167
" Electro-Therapy 62
" Therapeutics of Dionin 48
" Value of Training the Fusion Faculty 96
Ferrum Picricum in Diffuse Inflammation of the External Auditory Canal 169
The Massacon 130
Ferrum Iodatum in Pannus Scrofulosa. R. I. Lloyd 168
Ferrum Picricum in Diffuse Inflammation of the External Auditory Canal. C. G. Fellows 169
Fish, H. M. A Case of Retinal Detachment that Yielded Immediately to Treatment 71
Fisher, A. Discussion—Traumatic Cataracts 315
Five Traumatic Cataracts. B. F. Seitz 311
Garrison, J. B. Discussion—Homœopathic Remedies 301
Bryonia in Acute Influenza 163
Lycopodium in Follicular Tonsilitis 177
Neuroses of the Larynx 223
George, E. J. Discussion—Non-Operative Treatment of Mastoiditis 148
Graphites in Adenoids, Enlarged Tonsils, Blepharitis, Marginal and Post-Aural Eczema. E. D. Brooks 171
Graphites in Ciliary Blepharitis. G. D. Hallett 172
Green, W. E. Discussion—Capsicum in Acute Mastoiditis 165
Hallett, G. D. Discussion—Quinine Blindness 250
" Therapeutics of Dionin 47
" Adrenalin Chloride 267
" Value of Training the Fusion Faculty 96
Graphites in Ciliary Blepharitis 172
Ipecac in Phlyctenules in Conjunctiva and Corneal Margin. 173
Hanchet, A. P. Discussion—Ferrum Picricum 170
Hasbrouck, S. The Value of an Adjustable Air Cushion in Pneumo-Massage With High Speed and the Short Two MM. Stroke 232
Helfrich, C. H. Discussion—The Massacon 135
Hills, E. S. Experience With Electro-Therapy in Ocular Diseases 54
Hinson, J. M. Discussion—Paralysis of the Sixth Nerve 245
" Traumatic Cataracts 315
Homœopathic Remedies in Eye, Ear, Nose and Throat. D. A. Strickler ... 299
Hooker, E. B. Discussion—Lingual Tonsil 276
" Nasal Reflexes 263

PAGE.
Hooker, E. B. Discussion—Non-Operative Treatment of Mastoiditis 146
Hoyt, H. W. Discussion—Non-Operative Treatment of Mastoiditis 145
" Secondary Hæmorrhage 285
Ignatia in Nervous Spasm of Larynx on Attempting to Sing 173
Hubbard, C. H. Discussion—Intra-Nasal Sarcoma 155
" Lingual Tonsil 277
" Nasal Reflexes 263
" Single Indicated Homœopathic Remedy 195
" Treatment of Atrophic Rhinitis 128
Ignatia in Nervous Spasm of Larynx on Attempting to Sing. H. W. Hoyt. 173
Immature Cataract Treated by Massage. H. S. Willard 78
Intra-Nasal Sarcoma. D. H. Hubbard 155
Ipecac in Phlyctenules of Conjunctiva and Corneal Margin. G. D. Hallett. 173
Joint Session of the O., O. L. With National Soc. of Electro-Therapeutics . 53
Kali Bichromicum in Suppurative Otitis. G. A. Shepard 175
Kellogg, F. B. Two Cases of Secondary Hæmorrhage Following Operation for Adenoids 284
King, W. R. Discussion—Electro-Therapy 65
" Radium in Eye Diseases 203
" Some Causes of Astigmia 198
" The Massacon 137
" Value of Training the Fusion Faculty 92
Lachesis 30x in Acute Retinitis 175
Presiding at Joint Session O., O. L. and National Society of Electro-Therapeutics 53
Kreider, W. B. Discussion—Retrobulbar Neuritis 69
Rhus Toxicodendron in Corneal Inflammation 184
Rhus Toxicodendron in "Reflex Ophthalmia" 185
Lachesis 30x in Acute Retinitis. W. R. King 175
Lewis, F. D. Discussion—Ferrum Picricum 170
" Ipecac 174
" Melilotus in Headache 180
" Nasal Reflexes 259
Lingual Tonsil. T. S. Shearer 270
Linnell, E. H. Anisometropia 150
Lloyd, R. I. Ferrum Iodatum in Pannus Scrofulosa 168
Lycopodium in Follicular Tonsilitis. J. B. Garrison 177
MacLachlan, D. A. Discussion—Treatment of Atrophic Rhinitis 127
" Use of Adrenalin Chloride in the Eye ... 266
Magnesia Phosphorica in Mastoid Neuralgia. H. P. Bellows 177
Materia Medica Symposium 161
McDowell, G. W. Discussion—Homœopathic Remedies 302
" Non-Operative Treatment of Mastoiditis.. 146
" Paralysis of the Sixth Nerve 244
" The Massacon 136
Calcarea Carbonica in Eustachian Catarrh 163

PAGE.
Melilotus in Headache. D. A. Strickler 179
Moffat, J. L. Discussion—Anisometropia 153
" Experience With Electro-Therapy 56
" Ferrum Picricum 171
" Intra-Nasal Sarcoma 159
" Ipecac 174
" Lingual Tonsil 277
" Melilotus in Headache 181
" Nasal Reflexes 263
" Non-Operative Treatment for Mastoiditis 145
" Panophthalmitis After Cataract Extraction 186
" Paralysis of the Sixth Nerve 245
" Retinal Vascular Changes 229
" Secondary Hæmorrhage 286
" The Massacon 138
" Therapeutics of Dionin 49
" Traumatic Cataracts 314
" Treatment of Atrophic Rhinitis 127
" Thrombus at Floor of 4th Ventricle of Brain ... 217
" Use of Tuning Forks in Aural Diagnosis 211
" Use of Adrenalin Chloride in the Eye 267
" Value of Training the Fusion Faculty 96
" Verification of Prunus Spinosum 191
Munson, E. S. Retrobulbar Neuritis 68
Nasal Reflexes. E. W. Beebe 253
Neuroses of the Larynx. J. B. Garrison 223
Non-Operative Treatment of Mastoiditis. F. W. Colburn 140
Norton, A. B. Discussion—Anisometropia 154
" Ipecac 174
" Lachesis 30x in Acute Retinitis 175
" Phosphorus in Retinitis 183
" Rhus Toxicodendron 185
" Use of Adrenalin Chloride in the Eye 267
" Value of Training the Fusion Faculty 96
Demonstration of Operation for Senile Cataract 235
Panophthalmitis After Cataract Extraction; Rhus Toxicodendron 185
Radium in Eye Diseases 200
Officers, 1874-1905 65
Palmer, A. W. Discussion—Electro-Therapy 65
" Ferrum Picricum 171
" Intra-Nasal Sarcoma 158
" Nasal Reflexes 261
" Non-Operative Treatment of Mastoiditis 148
" Secondary Hæmorrhage 288
" Treatment of Atrophic Rhinitis 127

PAGE.
Palmer, A. W. Discussion—Use of Adrenalin Chloride in the Eye 269
Thrombus at Floor of 4th Ventricle of Brain 212
Panophthalmitis After Cataract Extraction; Rhus Toxicidendron. A. B. Norton 135
Paralysis of the Sixth Nerve. C. H. Brown 243
Piatti, V. F. Discussion—Adenoids 283
Phillips, W. A. Discussion—Homœopathic Remedies 300
Phosphorus in Retinitis. H. D. Schenck 181
President's Address. H. D. Schenck 31
Quinine Blindness; Two Cases. T. M. Shearer 247
Radium in Eye Diseases. A. B. Norton 200
Retinal Detachment, Yielding Immediately to Treatment. H. M. Fish 77
Retinal Vascular Changes. J. S. Moffat 229
Retrobulbar Neuritis. E. S. Munson 68
Rhus Toxicodendron in Corneal Inflammation. W. B. Kreider 184
Rhus Toxicodendron in "Reflex Ophthalmia." W. B. Kreider 185
Rice, G. B. Discussion—Lingual Tonsil 275
A Few Cases From My Record Books Apparently Cured by the Single Indicated Homœopathic Remedy 192
Roe, J. F. Discussion—Intra-Nasal Sarcoma 159
Schenck, H. D. Discussion—Capsicum 165
" Graphites 171
" Symptomatic Hæmorrhage 221
" Paralysis of the Sixth Nerve 245
" The Massacon 139
Phosphorus in Retinitis 181
President's Address 31
Secretary's Report 16
Seitz, F. B. Five Traumatic Cataracts 311
Shearer, T. S. Discussion—Lingual Tonsil 270
" Non-Operative Treatment of Mastoiditis 148
" Secondary Hæmorrhage 286
" Symptomatic Hæmorrhage 22
" The Massacon 137
Echinacea in Furuncles 166
Shepard, G. A. Discussion—Anisometropia 153
" Quinine Blindness 251
" Therapeutics of Dionin 49
Diagnostic Value of Color Field 114
Kali Bichromicum in Suppurative Otitis 175
Simonds, E. A. Discussion—Experiences With Electro-Therapy 57
Some Experiences With Electro-Therapy. E. L. Hill 54
Some Causes of Astigmia and Their Treatment. E. D. Brooks 196
Spigelia in Neuralgia. E. W. Beebe 187
Stearns, W. M. Discussion—Single Indicated Homœopathic Remedy 194
Stewart, T. M. Discussion—Capsicum 165

PAGE.
Stewart, T. M. Discussion—Diagnostic Value of the Color Field 120
" Demonstration of Operation .....
" Ferrum Picricum 169
" Homœopathic Remedies 303
" Ipecac 174
" Nasal Reflexes 261
" Operation of Senile Cataracts 238
" Panophthalmitis After Cataract Extraction .. 187
" Retinitis 295
" The Massacon 136
" Therapeutics of Dionin 49
" Value of Training the Fusion Faculty 98
Agaricus in "a Sense of Fullness as if a Lump Were in the Throat" 161
Quinine Blindness; Two Cases 247
Stitzel, J. W. Discussion—Agaricus 162
" Ferrum Picricum 170
Strickler, D. A. Discussion—Echinacea 167
" Ferrum Picricum 169
" Ipecac 174
" Homœopathic Remedies 299
Melilotus in Headache 179
Suffa, G. A. Sulphur in Dispersion of Chalazia of Recent Formation 189
Sulphur in Dispersion of Chalazia of Recent Formation. G. A. Suffa 189
Symptomatic Hæmorrhage From the Mucous Membrane of the Upper Respiratory Tract. D. Wright 218
The Massacon. C. G. Fellows 130
Therapeutics of Dionin. J. I. Dowling 37
The Value of an Adjustable Air Cushion in Pneumo-Massage With High Speed and the Short Two MM. Stroke. S. Hasbrouck 232
Thrombus at Floor of Fourth Ventricle of Brain. A. W. Palmer 212
Townsend, I. Discussion—Lingual Tonsil 276
Treatment of Atrophic Rhinitis 122
Treasurer's Report 15
Treatment of Atrophic Rhinitis. I. Townsend 122
Two Cases of Secondary Hæmorrhage, Following Operation for Adenoids. F. B. Kellogg 284
Uses of Adrenalin Chloride in the Eye. A. V. Duffield 265
Value of Training the Fusion Faculty. D. W. Wells 82
Verification of Prunus Spinosum. J. L. Moffat 190
Warner, A. G. Capsicum in Acute Mastoiditis 164
Weaver, H. S. Discussion—Intra-Nasal Sarcoma 159
" Nasal Reflexes 262
" Neurosis of Larynx 228
" Secondary Hæmorrhage 288
" Treatment of Atrophic Rhinitis 128

PAGE.

Wells, D. W. Discussion—Diagnostic Value of the Color Field 120
" Experience With Electro-Therapy 58
" External Rectus Muscles 240
" Some Cases of Astigmia 198
" Therapeutics of Dionin 45
The Therapeutic Value of Training the Fusion Faculty 82
Wiggins, F. C. Discussion—Experience With Electro-Therapy 59
Willard, H. S. Discussion—Paralysis of the Sixth Nerve 244
" Chrysophanic Acid in Eczema of Auricle 165
Two Cases of Immature Cataract Treated by Massage ... 78
Wilson, H. Albuminuric, Diabetic, Leukæmic and Anæmic Retinitis 290
Wright, D. Symptomatic Hæmorrhage From the Mucous Membrane of the Upper Respiratory Tract 218

4IC1141